D3200

DIGITAL RECORDING STUDIO

Owner's Manual

SESSION DRUMS
KNOB MATRIX
CD-RW
REMS
USB

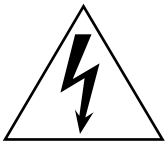
KORG

Ⓔ ①

IMPORTANT SAFETY INSTRUCTIONS

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Mains powered apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet. (for U.S.A. and Canada)
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Turning off the power switch does not completely isolate this product from the power line so remove the plug from the socket if not using it for extended periods of time.
- Install this product near the wall socket and keep the power plug easily accessible.
- WARNING—This apparatus shall be connected to a mains socket outlet with a protective earthing connection.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Do not install this equipment on the far position from wall outlet and/or convenience receptacle.
- Do not install this equipment in a confined space such as a box for the conveyance or similar unit.
- Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.



The lightning flash with arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

THE FCC REGULATION WARNING (for U.S.A.)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Unauthorized changes or modification to this system can void the user’s authority to operate this equipment.

CE mark for European Harmonized Standards

CE mark which is attached to our company’s products of AC mains operated apparatus until December 31, 1996 means it conforms to EMC Directive (89/336/EEC) and CE mark Directive (93/68/EEC). And, CE mark which is attached after January 1, 1997 means it conforms to EMC Directive (89/336/EEC), CE mark Directive (93/68/EEC) and Low Voltage Directive (73/23/EEC).
Also, CE mark which is attached to our company’s products of Battery operated apparatus means it conforms to EMC Directive (89/336/EEC) and CE mark Directive (93/68/EEC).

Handling of the internal hard disk

Do not apply physical shock to this device. In particular, you must never move this device or apply physical shock while the power is turned on. This can cause part or all of the data on disk to be lost, or may damage the hard disk or interior components.

When this device is moved to a location where the temperature is radically different, water droplets may condense on the hard disk. If the device is used in this condition, it may malfunction, so please allow several hours to pass before operating the device.

Do not turn the power on and off repeatedly. This may damage the D3200.

This device begins to access the hard disk immediately after the power is turned on.

Never turn off the power while the HDD access indicator is lit or blinking. Doing so can cause all or part of the data on hard disk to be lost, or may cause malfunctions such as hard disk damage.

If the hard disk has been damaged due to incorrect operation, power failure, or accidental interruption of the power supply, a fee may be charged for replacement even if this device is still within its warranty period.

Data handling

Incorrect operation or malfunction may cause the contents of memory to be lost, so we recommend that you save important data on a CD or other media. Please be aware that Korg will accept no responsibility for any damages which may result from loss of data.
Also, when digitally recording copyrighted audio material from a DAT or CD etc., you must obtain permission for use. Please be aware that Korg will accept no responsibility for any copyright violations which may occur through your use of this product.

COPYRIGHT WARNING

This professional device is intended only for use with works for which you yourself own the copyright, for which you have received permission from the copyright holder to publicly perform, record, broadcast, sell, and duplicate, or in connection with activities which constitute “fair use” under copyright law. If you are not the copyright holder, have not received permission from the copyright holder, or have not engaged in fair use of the works, you may be violating copyright law, and may be liable for damages and penalties. If you are unsure about your rights to a work, please consult a copyright attorney. **KORG TAKES NO RESPONSIBILITY FOR ANY INFRINGEMENT COMMITTED THROUGH USE OF KORG PRODUCTS.**

* Company names, product names, and names of formats etc. are the trademarks or registered trademarks of their respective owners.

Cautions when using the CD-R/RW drive

- During CD reading and writing operations, keep the unit in a horizontal position.
- Do not use the unit in extremely cold or hot locations.
- Do not use the unit in extremely humid locations.
- Do not use the unit in dusty or smoky locations.
- Do not subject the unit to vibration or strong physical shock. In particular, this unit is vulnerable to shock during CD reading and writing operations.
- Normally, you will be able to open the CD tray by pressing the eject button. However if this fails, you can forcibly eject the tray by inserting a thin object (such as a straightened paper clip) into the emergency eject hole.
- Do not store the unit in hot or humid locations.
- Never touch the focusing lens.
- Do not use commercially available lens cleaners.
- Do not transport the unit with a disc left in the tray.
- Do not leave the unit with the disc tray open.

CD-R/RW handling

Please observe the following points when handling discs. Failure to observe these points may cause problems such as data not being written correctly, loss of recorded data, or drive malfunction.

- Do not leave discs in direct sunlight, or in locations of high temperature or high humidity.
- Do not touch the surface of a disc. Hold a disc by its edges.
- Remove dust or dirt from the surface of a disc. To remove dust, use an air duster or cleaner.
- Do not affix labels to a disc, or write on a disc in locations other than specified.
- Do not use chemicals or detergent to wipe a disc.
- Do not bend or drop a disc.

Responsibility for loss of data

Korg Corporation will accept no responsibility for any damages (direct or indirect, whether sustained by the customer or by a third party) resulting from loss of or damage to data written on a CD-R or CD-RW disc.

Printing conventions in this manual

Faders, knobs, and keys on the panel

In this manual, “faders,” “knobs,” and “keys” refer to controls on the panel. The names shown on the panel are printed in boldface in the manual.
Examples: MASTER fader, TRIM knob, REC/PLAY key

Items in the LCD screen

“Buttons” and “dialog boxes” are displayed in the LCD screen. The names shown in the screen are printed in **boldface** in the manual.
Items printed in “**boldface**” are parameters or tab page names shown in the LCD screen.
Examples: **OK** button, **Rename** dialog box, **“SetUp”** tab page

Other items printed in boldface

Boldface is also used to indicate the names of non-selectable parameters shown in the LCD screen, or to indicate content in the text that we wish to emphasize.

Steps (1) (2) (3) ...

Steps in a procedure are indicated as (1) (2) (3) ...

(→p.■■)

This indicates a reference page within this manual.

, note, i.e.

These symbols respectively indicate points of caution, notes of advice, or examples.

…, “XX” tab page

This refers to a page shown in the LCD screen. To access this page, press the top panel … key, and then click the “XX” tab in the LCD screen (→p.13).
You can also use the panel ◄TAB PAGE/TAB PAGE► keys to move between tab pages.

…, …, “XX” tab page

The top panel MIXER key and CD key display a page jump menu in the LCD screen before the tab pages appear, so click the page button (→p.13) and then click the “XX” tab (→p.13). Pressing the **MIXER** key or **CD** key will take you back to the page jump menu screen.

LCD screens

The parameter values shown in the LCD screens printed in this manual are explanatory examples, and may not necessarily match the displays that appear on your D3200.

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Introduction

Thank you for purchasing the Korg **D3200 Digital Recording Studio**.
To take full advantage of the D3200's functions, and to enjoy trouble-free use, please read this manual carefully and use this product only as directed. Keep this manual in a safe place for future reference.

Included items

Make sure that the following included items are present.

- **Owner's Manual (this document)**
- **Power cable**

Before using the D3200 for the first time

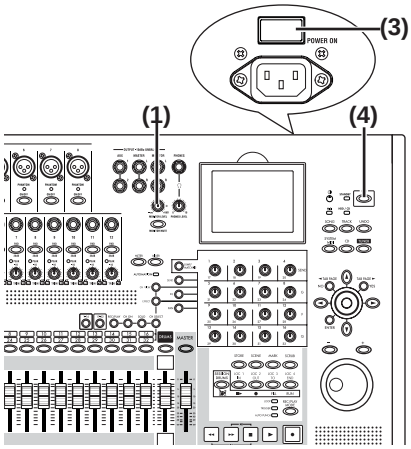
Important

Please observe the following points when using the D3200.

Power on / off

The D3200 is a precision instrument, similar to a personal computer, equipped with an internal hard disk drive and a CD-R / RW drive. When turning the power on and off, follow the procedures shown below.

Before you turn on the power, make sure that the power cable is firmly plugged into the D3200 and into an AC outlet.



● Power-on

(1) Lower the D3200's MONITOR LEVEL knob to the –∞ position. Set the volume controls of your external equipment to their lowest position.

(2) Turn on the power of external input devices such as keyboards that are sending audio to the D3200.

(3) Turn on the main power switch (POWER ON) located on the rear panel of the D3200.
The STANDBY indicator will light. The D3200 is now in the "standby" condition.

A certain amount of time will be required from when you turn on the main power until the STANDBY indicator lights.

(4) Press the power (ON) key located on the top panel to turn the D3200 on.
The opening screen will appear in the LCD, and then the SONG page will appear.

A certain amount of time from when you press the power-on key until the opening screen appears.

The next time you turn the power on, the song that had been selected prior to the previous power-off will be selected.

The opening screen (D3200)

(5) Turn on the power of your external output devices, such as the monitor system to which the D3200 is sending audio.

If the power is turned off accidentally while the D3200 is being used, the D3200 itself or its internal hard disk drive may be damaged.

● Power-off

(1) Lower the D3200's MONITOR LEVEL knob to the –∞ position.

(2) Turn off any devices connected to the D3200's outputs, such as your monitor system.

(3) Hold down the D3200's power (ON) key (for 2–3 seconds) and the shutdown LCD screen appear.
If you click the **Yes** button (or press the panel **YES** key) in the LCD screen, the song will be saved automatically, and the D3200 will enter the standby state. This process is called "**shutdown**."
If you click the **No** button (or press the panel **YES** key), you will return to the previous screen.

(4) Press the main power switch (POWER ON) located on the rear panel of the D3200 to turn off the power.

(5) Turn off any devices (such as keyboards) connected to the D3200's inputs.

When turning the power off, you must perform the shutdown process. Never turn off the main power switch or disconnect the power cable before shutdown has been completed.

If you turn off the main power switch or disconnect the power cable before shutdown has been completed, data or user settings will be lost, and the hard disk may be damaged.

The audio you record into the D3200 and the mixer and effect settings you make are automatically saved when you select a song or perform the shutdown process.

Perform the shutdown process when you have finished all activities such as playback or recording. If you will not be using the D3200 for an extended period of time, turn off the main power switch on the back of the D3200.

Setting the calendar

When a song is saved, the file is time-stamped with the date and time provided by the internal calendar.
You will need to set the calendar the first time you use the D3200 after purchasing it, if the main power switch has been turned off, or if you need to change the calendar time for any other reason.

If you haven't set the calendar, the calendar area (A) of the information display is shown in gray.

(1) Press the SYSTEM/MIDI key.

(2) Click the "Control" tab.

(3) Click the Date/Time button to open the Calendar dialog box.

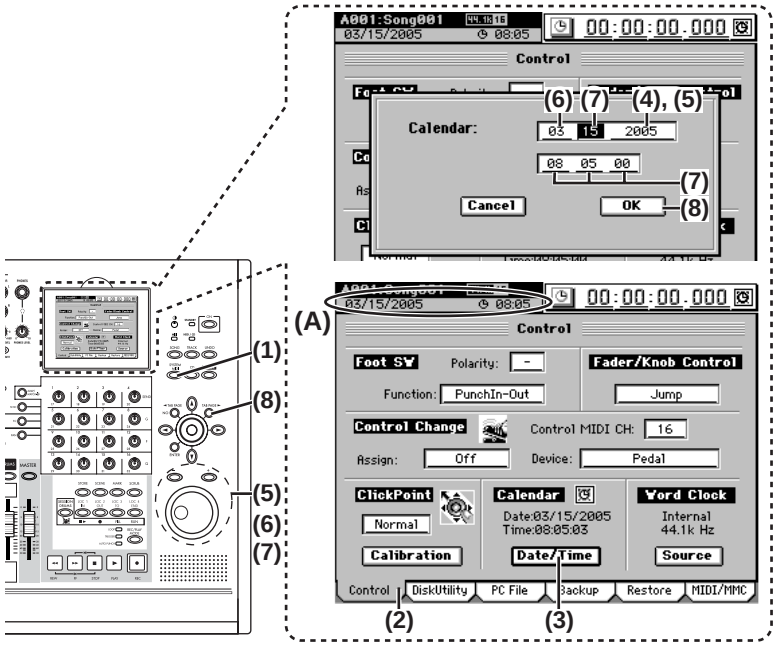
(4) Click the four-digit year field to highlight it.

(5) Use the value dial or the +/– keys to set the year.

(6) Click the month field at left to highlight it, and set the month in the same way.

(7) In the same way, set the day, hour (in 24-hour format), minute, and second areas of the Date field.

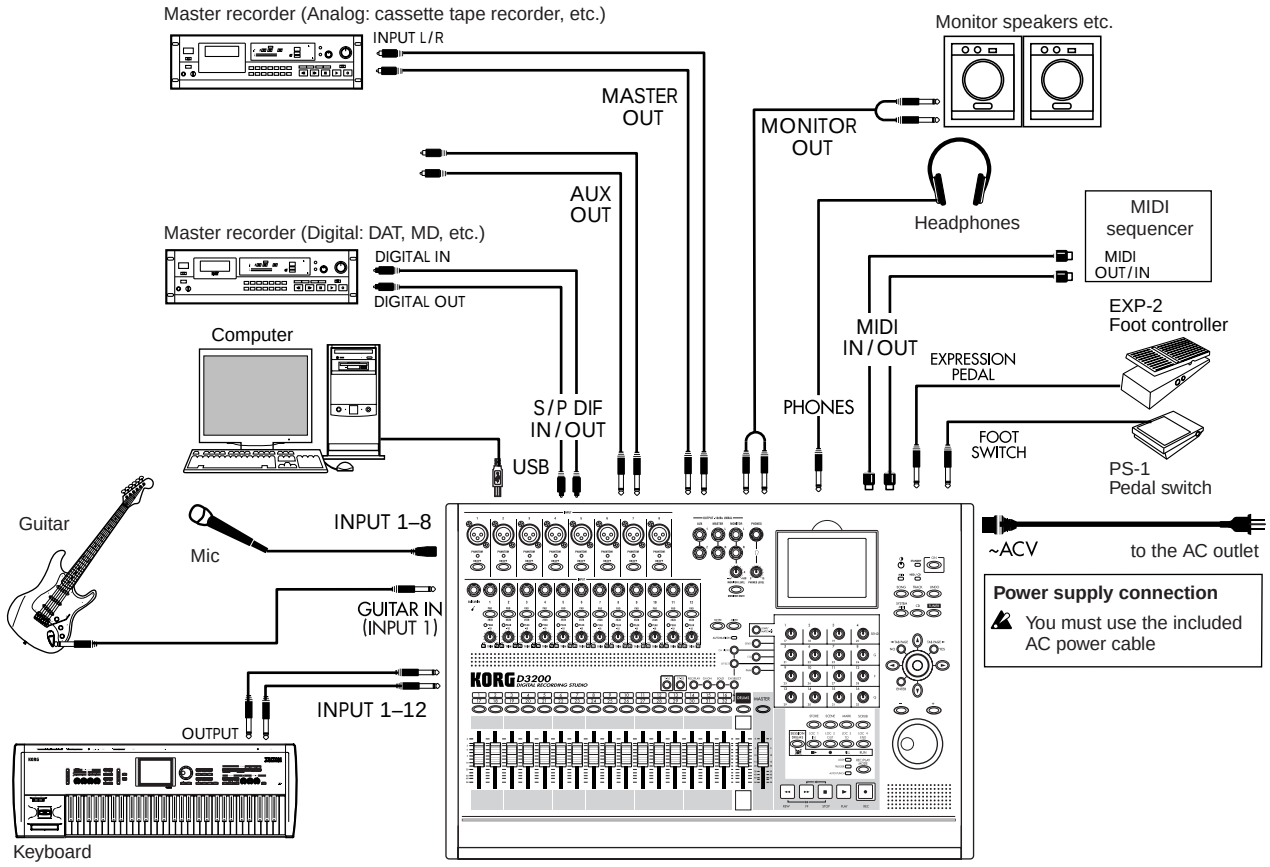
(8) Click the OK button (or press the panel YES key) to apply the date and time you specified.



note *The calendar clock continues to run when you power-off to the Standby mode. However, if you turn off the main power switch, the calendar will need to be reset.*

Connection example

This diagram shows typical connections when using the D3200.
Connect your equipment as appropriate for your system.



Cautions when making digital connections

- *If any of the synchronization settings of the D3200 do not match those of the connected device, noise may occur. Turn down the faders or minimize the volume of your monitor speakers before you change settings.*
- *If you select a song that has a different sampling frequency, noise may occur when the change occurs. Turn down your monitors before you make such a change.*

Main features

♦ 32-track digital multi-track recorder

The D3200 provides studio-quality sound with 64-bit internal processing, 24/16-bit recording and playback, and 48 kHz/44.1 kHz uncompressed recording.

When using 48 kHz/44.1 kHz sampling and 16-bit depth ❖1

Maximum simultaneous recording/playback 16* tracks/32 tracks

When using 48 kHz/44.1 kHz sampling and 24-bit depth ❖1

Maximum simultaneous recording/playback 12** tracks/16 tracks

note **16 channels is the maximum, combining 12 analog inputs, + 2 digital inputs (S/P DIF L,R), + 2 Session Drums (L,R).*
***12 channels using any combination of analog inputs, digital inputs and Session Drums.*

Each track (including the master track) has eight virtual tracks, allowing you to use a total of 256 + 16 tracks for each song.

❖1 The number of simultaneously recordable tracks will be different when you use punch recording.

♦ Session Drums™

The D3200 is equipped with Korg's unique Session Drums™. Using the Session Drums™ to control the internal drum sounds you can play, create, modify and record a drum track for your song. The Session Drums™ even have their own dedicated fader. For added realism, you can access a number of real-time control elements - such as shuffle, dynamics and humanize - all using the convenient Knob Matrix.

♦ XLR input jacks with +48V phantom power, analog inputs, dedicated guitar input jack, and digital connectors

To maximize the benefit of the D3200's full-digital processing, all of the analog inputs use high-performance balanced preamps.

The eight +48V phantom-powered XLR input jacks contain high-performance mic preamps. Each of the phantom power supplies can be switched on/off individually, so you are free to mix condenser mics and dynamic mics.

All phone jack inputs (except for the guitar input jack) are the TRS balanced type. Unbalanced inputs may also be connected to these jacks. A wide range of audio sources can be connected, ranging from mic level all the way up to +4 dBu, exceeding normal professional levels. A dedicated guitar input jack is also provided.

The S/P DIF digital input supports sampling frequencies of 48 kHz/44.1 kHz, and 24- and 16-bit depths.

♦ Mixer section provides four-band EQ on each channel/track and four-band master EQ

The 44-channel 12-bus mixer section provides four-band full parametric EQ on mixer channels 1–24, and two-band shelving EQ on mixer channels 25–32 and on the sub-mixer.
The EQ applied to the input during recording is independent from the EQ applied to the track during playback, so there is no danger of applying the same EQ twice – a problem that often occurs on MTR units containing conventional analog mixers.
Four-band full parametric equalization is provided for the master EQ, allowing you to make detailed adjustments to the tone during mastering.

♦ 100 mixer scene memories, plus MIDI control of mixer parameters

For each song, you can store one hundred scenes containing the fader, EQ, pan, and effect settings of the mixer section. Scenes can be easily recalled when desired as general-purpose settings. You can also use MIDI to switch scenes, and to transmit and receive mixer parameters such as fader and pan.

♦ Scene and event mixer automation

Scene changes and mixer events such as fader movements and panning operations can be recorded and reproduced according to elapsed playback time. Scene automation can be used to switch scenes automatically.

♦ Powerful modeling effects featuring real-time control via the Knob Matrix

The built-in effects utilize Korg's proprietary "*REMS*" modeling technology to deliver precise and powerful modeling sounds.
You can use the sixteen real-time controllers of the Knob Matrix to edit effect parameters quickly and intuitively. The modeling effects include simulations of vacuum tube preamps, classic amps and cabinets from around the world, and mic simulators for vintage tube mics and modern studio condenser mics.

♦ Three independent effect systems provide eleven simultaneous effects

You can use up to a total of eleven effects, each with internal 56-bit processing: 8 insert effects, 2 master effects, and 1 final effect.
For each effect, you can select an effect program created using one of 52 different effect algorithms (combinations of basic effects).
The effect programs include 128 preset programs created by professional musicians and studio engineers, and 128 user effect programs that you can use to create, edit and store your own custom effect settings.
In addition, each song has 32 editable song effect programs.
You can also control effects in real time from an external MIDI controller or from an expression pedal (EXP-2, XVP-10: sold separately).

♦ Sophisticated digital editing tools

Non-destructive editing functions (possible only on digital recorders) allow you to perform numerous edits without compromising the high audio quality. In addition to auto and manual punch-in / out, there are Undo and Redo functions that allow you to audition the "before" and "after" versions of any edit, before making it permanent. You can use Undo to retrace your steps through the sixteen most recent recording or editing operations! A total of twelve types of track editing operation are provided, including a convenient Time Expansion / Compression function that lets you match up phrases of differing tempo after recording, and a Normalize function that appropriately boosts the volume and increases the dynamic range of low-level recordings.
For each song you can assign one hundred markers (with names) and six locate points to keep track of (and instantly access) the locations of all your edits.

♦ Intuitive interface designed for ease-of-use

The D3200 is designed for enhanced usability and ease of operation. Controllers such as the center-click ClickPoint™ and cursor keys can be used to quickly select parameters and tabs in the 320× 240 pixel high-resolution LCD screen. The Knob Matrix is located below the high-resolution LCD screen, and allows you to edit parameter values quickly, in real time and on the fly.

♦ Internal hard drive

A high-capacity hard disk drive is built-in, providing approximately three hours of recording time per GB (16-bit, 44.1 kHz, single track recording).

♦ CD-R / RW drive for creating backup disk and audio CDs

You can use the CD drive to backup / restore song and effect data, import / export audio files, and create audio CDs. You can also place an audio CD in the drive and use the CD Player function to play it. You can create an audio CD either by writing songs individually using Track At Once; or by using the Album CD Project and Disc At Once functions.

♦ USB connection lets you easily share files with your computer

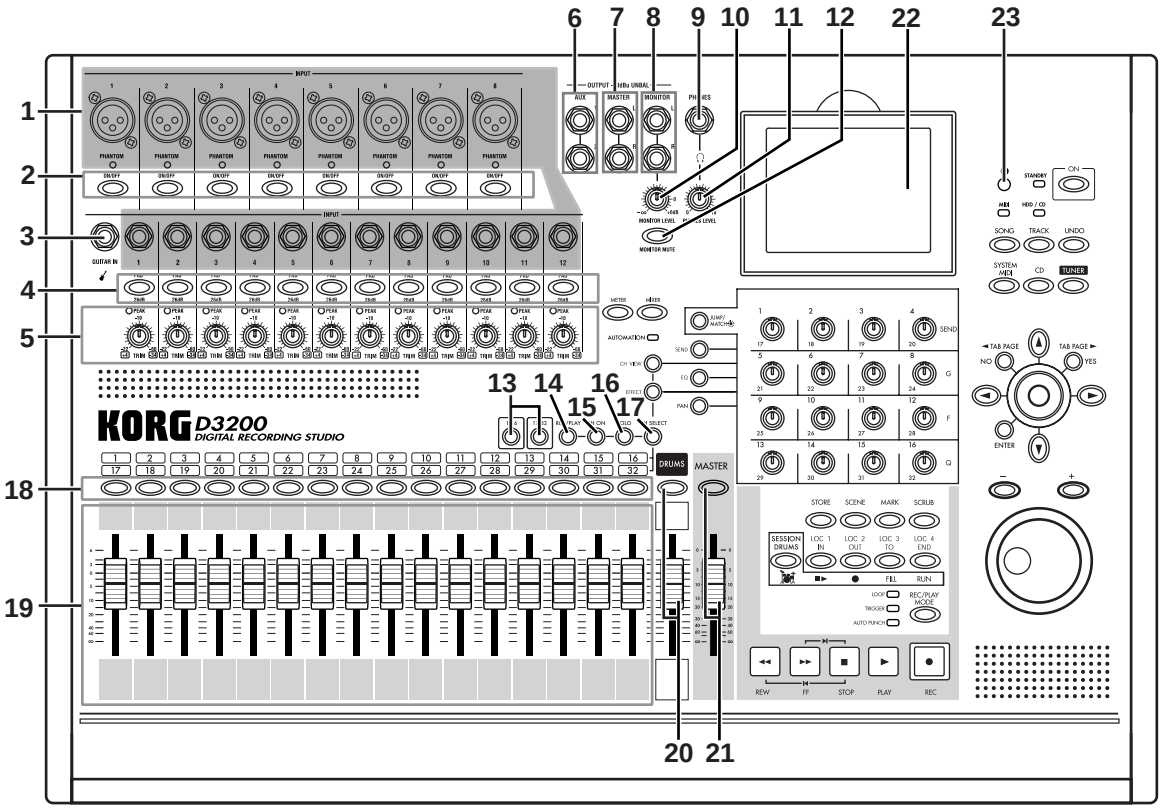
The USB connector makes it easy to exchange data with your computer. You can connect the D3200 to your computer and partition a 2, 4, or 8 GB area of the D3200's hard drive as a PC drive for sharing data.

What is *REMS* ?

REMS (**R**esonant structure and **E**lectronic circuit **M**odeling **S**ystem) is Korg's proprietary technology for digitally recreating the numerous factors that produce and influence a sound, ranging from the sound-production mechanisms of acoustic instruments and electric / electronic musical instruments, to the resonances of an instrument body or speaker cabinet, the sound field in which the instrument is played, the propagation route of the sound, the electrical and acoustic response of mics and speakers, and the changes produced by vacuum tubes and transistors.

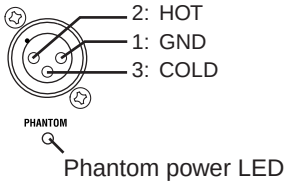
Parts and their function

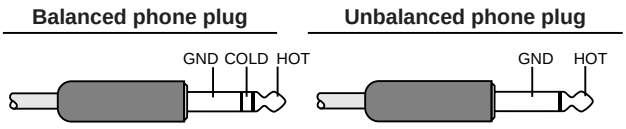
Top panel



1 INPUT 1, INPUT 2...INPUT 12 jacks

Connect mic or line sources (such as keyboards) to these input jacks.
Both XLR jacks and balanced 1/4" TRS phone jacks are provided.
You may also connect unbalanced phone plugs to the 1/4" jacks.
You can use either XLR connectors or TRS phone connectors for INPUT 1 through 8.
If you need to supply phantom power to condenser mics, connect them to the XLR connector.
Each XLR jack can provide +48V phantom power for condenser mics. The LED located below each XLR jack will light if phantom power is switched on for that jack.





*The balanced XLR jacks for **INPUT 1–8** provide +48V phantom power for use by condenser mics; you can switch this on/off independently for each channel.*

Your equipment may be damaged if you connect or disconnect a condenser mic with phantom power turned on. You must turn phantom power off before connecting or disconnecting condenser mics.

2 Phantom power switch

INPUT 1–8 jacks provide +48V phantom power so that condenser mics can be used. Phantom power is supplied to the balanced XLR jacks, and can be selected independently for each channel. Turn this switch on only for channels that use a condenser mic.

If a condenser mic is connected or disconnected with the phantom power switch on, damage to your equipment may occur. For this reason, always turn the phantom power switch off before connecting or disconnecting a condenser mic.

If the phantom power switch is on, you must never connect any device other than a condenser mic. Doing so may damage your equipment.

3 GUITAR IN jack

You can plug a guitar or bass into this jack. The GUITAR IN jack shares the same audio path as the INPUT 1 jack; if both jacks are connected to an audio source, the GUITAR IN jack will take priority. This is an unbalanced 1/4" phone jack with 1 MΩ input impedance.

4 PAD buttons

The pad will reduce the input level by 26 dB. The pad is on when the switch is pressed in. You can extend the adjustable range of the **TRIM** knob by turning the pad on when using a line input. Leave the pad switched off for a low-output device such as a mic or guitar.

5 TRIM knobs

These knobs adjust the input level. The markings indicate the input level.
Adjust the **TRIM** knob as appropriate for your input device so that the LED located at the upper left of the knob does not light even at the maximum loudness.
The **TRIM** knob has a range of +4 to –34 dBu when **PAD** is on, or –22 to –60 dBu when **PAD** is off. The input level will depend on the instrument or performance, but the approximate ranges are as follows.

–60 – –40 dBu: mic input
–30 dBu: guitar, bass guitar
–10 dBu: consumer audio devices such as a CD player
+4 dBu: keyboards or studio equipment

*If the **TRIM** knob is raised when nothing is connected to the input, hum or noise may result. Keep the trim knob at its lowest setting when the channel is not in use.*

6 AUX 1/2 jacks

These jacks output the external send audio signals from the mixer channels (→p.109). You can connect these to the input jacks of an external effect processor.
These are 1/4" unbalanced phone jack outputs.

7 MASTER L/R jacks

These jacks provide the analog audio signal from the master bus, or the audio signals selected by the **SOLO** function. You can select the solo source in **MIXER**, **SOLO/MONITOR**, **"Solo"** tab page.
These jacks are primarily used to connect the D3200 to an external recording device. These jacks provide an analog version of the audio being sent to the S/P DIF OUT jack.
These are 1/4" balanced/unbalanced TRS phone jack outputs.

8 MONITOR L/R jacks

Connect these jacks to your external monitor system. In **MIXER**, **SOLO/MONITOR**, **"Monitor"** tab page (→p.47, 111) you can select the bus that will be monitored from these outputs. These jacks output the same audio as the **PHONES** jacks.
These are 1/4" balanced/unbalanced TRS phone jack outputs.

9 PHONES jack

A set of headphones can be connected to each of these jacks.
This is a 1/4" stereo phone jack.
The headphone output is the same signal as the **MONITOR L/R** jacks.

10 MONITOR LEVEL knob

This knob sets the volume level of the signal being sent from the **MONITOR L/R** jacks.

11 PHONES LEVEL knob

This knob adjusts the volume level of the signal being sent from the **PHONES** jack.

12 MONITOR MUTE key

This switch mutes the audio output from the **MONITOR L/R** jacks. The setting will alternate on/off each time you press the key. The audio from the **PHONES** jack will not be muted. This feature is very useful if you are recording using a microphone, and do not want the microphone to pick up the sound from your monitor speakers.

13 1–16 key, 17–32 key

Use these keys to select whether the **channel faders**, **channel keys**, and LCD screen will be used to operate channels 1–16 or channels 17–32. The key you select will light.

14 REC/PLAY key

Turn this key on (lit) and use the **channel keys** to switch each channel of the track recorder between record and playback status. The status of the track will alternate each time you press its **channel key**. If the master track **channel key** is set to PLAY, all tracks will automatically be muted (silent).

15 CH ON key

Turn this key on (lit) and use the **channel keys** to enable or disable each channel. You can use this as a Mute function.

16 SOLO key

Turn this key on (lit) and use the **channel keys** to turn Solo on / off for each channel. You may turn Solo on for more than one channel at a time.

17 CH SELECT key

Turn this key on (lit), and use the **channel keys** to specify the track that will be selected in the **"Ch View," "EQ/ATT,"** or send tab pages.

18 Channel keys (1–16 / 17–32)

These keys switch the status of each channel.
If the 1–16 key is lit, these keys correspond to channels 1 through 16; if the 17–32 key is lit, these keys correspond to channels 17 through 32.
CH SELECT key on: Use these keys to select channels (lit if selected).
SOLO key on: Use these keys to select the soloed channels (lit if selected).
CH ON key on: Switch each channel between enabled / disabled (muted) (lit if enabled).
REC/PLAY key on: Switch each channel between recording / playback status (red for record, green for playback).

19 Channel faders (1–16 / 17–32)

These faders specify the recording / playback volume of each channel. If the 1–16 key is lit, the faders control channels 1–16; if the 17–32 key is lit, the faders control channels 17–32.

20 DRUMS fader, DRUMS key

This fader adjusts the recording / playback volume of the Session Drums. When the **DRUMS** key located above the fader is on (lit), you can use the Session Drums to produce a rhythm during recording or playback.

21 MASTER fader, MASTER key

This fader adjusts the overall volume of all channels. When recording the master track, this sets the recording level of the recording-destination track. Each time you press the **MASTER** key located above the fader, the status will alternate between record (lit red) / play (lit green) / off (dark).

note *Normally, you will leave the **MASTER** fader set to 0 dBu while recording on the individual tracks, and use the channel faders to adjust the mix so the output does not distort.*

22 LCD screen

This displays information such as the recording / playback volume (level meters), time data (location), and various parameters. You can use the edit controllers to select buttons, cells, pages, and tabs; and to edit parameters and their values.

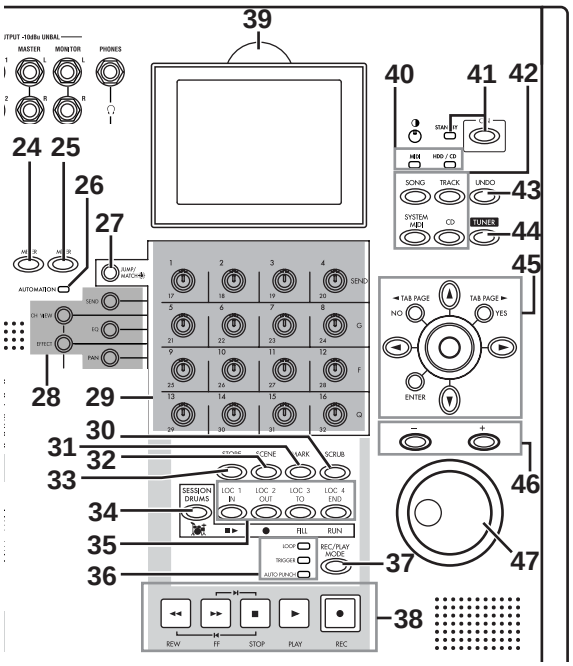
23 LCD CONTRAST knob

This knob adjusts the contrast of the LCD screen.
The appearance of the LCD screen may differ depending on your viewing angle, so adjust the contrast using this knob for the best visibility. Turning this knob toward the right will make the text darker, and toward the left will make the text lighter.

Depending on the content that is displayed in the LCD screen, you may notice vertical lines in the screen. This is not a malfunction.

24 METER key

This key accesses a screen that shows the audio levels of the song, the presence or absence of audio events, and a list of virtual tracks. You can also switch this to a **"FaderView"** that lets you change the position at which the level meters are inserted, or check the fader or pan positions.



25 MIXER key

Press this key to access the Mixer page jump menu screen.

26 AUTOMATION indicator

When this indicator is lit, automation is on; when automation is being recorded, it will blink.

27 JUMP/MATCH key

The faders and Knob Matrix can be set to behave in a JUMP or MATCH style when moving a parameter from its stored value, by changing the Fader/Knob Control setting (→p.119) in the Control tab page.
If this is set to **JUMP**, the key will be dark.
When the key is lit the **MATCH** setting is selected. The key will blink slowly if the position of the control knob or fader you're moving is distant from the stored value. When the knob or fader position approaches the stored value, the blinking will become a rapid flicker, and will change to be solidly lit when you reach the actual specified value.
By holding down this key while moving a control knob or fader, you can temporarily switch to **JUMP** operation.

28 Direct keys

By pressing these keys you can select the current function of the Knob Matrix, and access the corresponding tab pages.

29 Knob Matrix

These 16 multi-function knobs provide real-time control of the Effects, EQ, Session Drums™, etc.

30 SCRUB key

Accesses the Scrub page. Use the **value dial** to control the selected function. (→p.40, 146)

31 MARK key

You can register a desired location within a song as a "mark," and instantly recall that registered location whenever you want. You can also rename or delete existing marks. (→p.38, 145)
By holding down this key and pressing the + or – keys, you can successively recall the locations that were registered at each mark.

32 SCENE key

This key stores mixer settings such as the **channel** faders, **pan** knobs, EQ, and effect sends as a "scene" at the desired location in a song. If you play back with automation turned on, the stored scenes will be recalled and changed automatically. You can also edit scenes by rearranging, renaming, or deleting them. (→p.50, 105)

33 STORE key

Press this key to register the current time location as a locate point, a mark, or for a scene. (→p.38, 39, 50, 145)

34 SESSION DRUMS key

This key accesses the Session Drums tab page, which you can use to create a drum track for your song.

35 LOC 1/IN, LOC 2/OUT, LOC 3/TO, LOC 4/END key

These keys are used to register a specific time location within a song, or to instantly jump to a registered time location.

The time locations registered here can be used as the punch-in/out locations, and to specify the editing range for track editing operations such as copy or delete. (→p.38, 147)

You can also assign each key to a specific tab page within the MIXER page, so that pressing the key will take you to that tab page (→p.147).

36 LOOP, TRIGGER, AUTO PUNCH indicators

These indicators will light to show which operation - loop record/playback, trigger recording, or auto punch recording - is selected.

37 REC/PLAY MODE keys

Use this key to select the recording mode, or to turn loop playback on/off.

38 Transport keys

Use the **REC**, **PLAY**, **STOP**, **REW**, and **FF** keys to perform playback or recording operations on the recorder. (→p.149)

39 DISPLAY UP/DOWN

By pressing this button on the back edge of the display, you can adjust the angle of the LCD screen over five steps for best visibility.

Do not use excessive force to move the screen.

40 HDD/CD access and MIDI indicators

The HDD/CD indicator will light to indicate that the hard drive is being accessed for recording, playback or editing, or when the CD-R/RW drive is operating. The MIDI indicator will light when MIDI messages are received from the **MIDI IN** connector.

Never subject the D3200 to vibration or impact while this HDD/CD indicator is lit.

41 ON key, standby indicator

Pressing this key will turn the D3200 power on/off. When the standby indicator is lit, pressing the **ON** key will turn the D3200 on.

When the D3200 is operating, hold down the **ON** key to access the **Power Off** dialog box.

42 Page mode keys

Pressing one of these keys will call up the corresponding page mode. When you press the **CD** key, the corresponding page menu screen will appear.

43 UNDO key

The Undo function allows you to go back and listen to the audio as it was before an Edit was performed. The Redo function brings back the edited result.

You can retrace your steps through as many as sixteen prior recording or editing operations. (→p.141).

44 TUNER key

Press this key to access the Tuner screen, where you can check the tuning of the audio source that's connected to the GUITAR IN jack.

45 Edit controller

Use these controllers to select a button, cell, or tab in the LCD screen, and to edit parameters and values. The center-click ClickPoint, cursor (▲▼◄►) keys, TAB PAGE /YES key, TAB PAGE /NO key, and ENTER key let you edit quickly and efficiently.

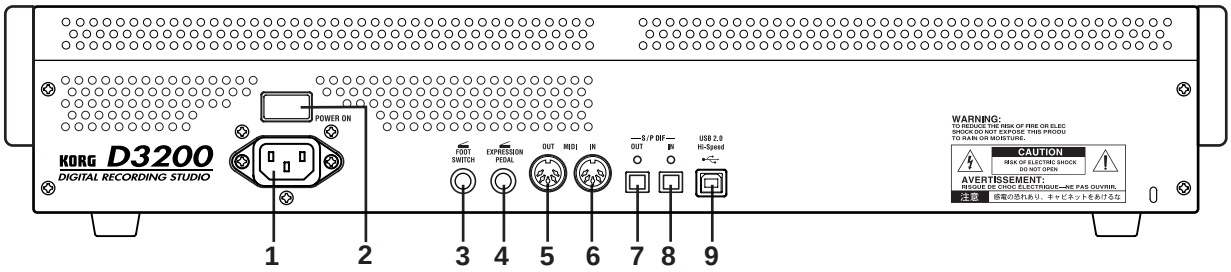
46 +, – keys

These keys edit the value of the selected parameter as an alternative to using the **value dial**. These keys are convenient when you want to adjust the value in single increments.

47 Value dial

Use this dial to edit the value of the selected parameter or to change the current time location. When the Scrub page is displayed, rotating this **dial** will play back the track at the corresponding speed (up to a maximum of double speed).

Rear panel



1 AC connector

Connect the power supply cable (included) here.

2 Main power switch (POWER ON)

This turns the main power on / off.

When the Main power switch is turned on, the D3200 will be in the standby mode. In the standby mode, pressing the **ON** key will turn the D3200 on. While the D3200 is operating, hold the **ON** key to access the **Power Off** dialog box and select **Yes** to shutdown the D3200 and return to the standby mode. Then you can use the main power switch to turn the power off completely.

*To turn off the power, you must first press the **ON** key to perform the shutdown operation. Never turn off the Main power switch or disconnect the power cable until shutdown has been completed.*
If you turn off the Main power switch or disconnect the power cable before shutdown has been completed, data and user settings may be lost, and the hard disk may be damaged.

3 FOOT SW jack

When your hands are busy playing an instrument, you can use a foot switch to control basic operations of the D3200 recorder.

A foot switch can be used to start / stop the playback, start / end manual punch-in recording, register a mark, or to record tap tempo. (→p.26, 63, 66, 119)

Connect a foot switch (optional PS-1) to this jack.

4 EXPRESSION PEDAL jack

You can use a pedal to control a specified parameter of an insert effect. You can control the parameter in real time while you play or record. (→p.57, 119)

Connect an expression pedal (separately sold option, EXP-2, XVP-10 etc.) to this jack.

5 MIDI OUT connector

MIDI messages are transmitted from this connector. Use this when you wish to use the D3200 to control an external device via MIDI. (→p.94, 119)

6 MIDI IN connector

MIDI messages are received at this connector. Use this when you wish to control the D3200 from an external MIDI device. (→p.94, 119)

7 S/P DIF OUT jack

This is an optical-type S / P DIF format (IEC60958, EIAJ CP-1201) digital output jack (stereo). Use an optical cable to connect this jack to the optical digital input of your DAT, MD or other equipment.

This output provides the same audio as the **MASTER L/R** jacks, but as a digital signal at the same sampling frequency and bit depth as the current song.

8 S/P DIF IN jack

This is an optical-type S/P DIF format (IEC60958, EIAJ CP-1201) digital input jack (stereo).
Use an optical cable to connect this jack to the optical digital output of your DAT, MD or other equipment.
This input provides a digital audio signal at the same sampling frequency and bit depth as the current song.

9 USB connector

You can use a USB cable to connect the D3200 to your computer.

USB peripheral devices such as external hard disks and CD-R/RW drives cannot be connected to the D3200.

About the CD-R/RW drive

The D3200's front panel contains a CD-R/RW drive that you can use to backup and restore data, import and export WAV audio files, and to play or write audio CDs.

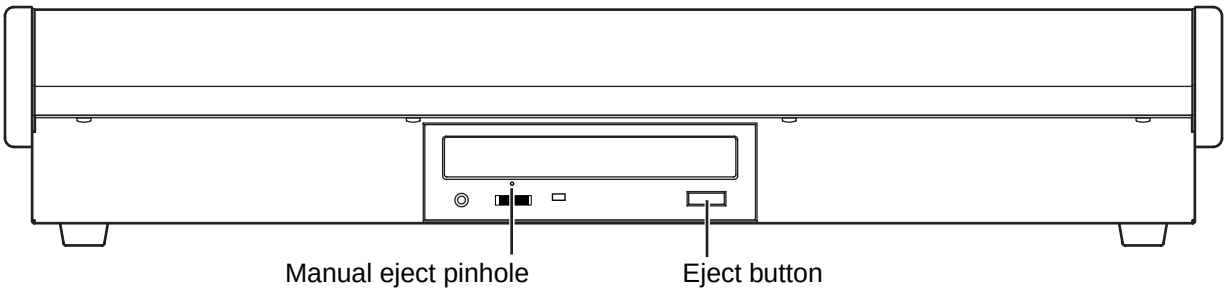
The disc drive is a precision device; always use it in a horizontal position that is not subject to vibration.

Inserting a disc

Make sure that the D3200 is on.
(1) Press the eject button of the CD-R/RW drive to open the disc tray.
(2) Place the disc accurately in the tray, label side up.
(3) Press the eject button to close the CD-R/RW drive.

Removing a disc

(1) Press the eject button to open the disc tray.
(2) Gently remove the disc from the disc tray.
(3) Press the eject button to close the CD-R/RW drive.



Emergency disc removal

Normally you will be able to remove the disc as described above. However, if this is not possible due to a power failure or other problem, you can also remove the disc as follows.

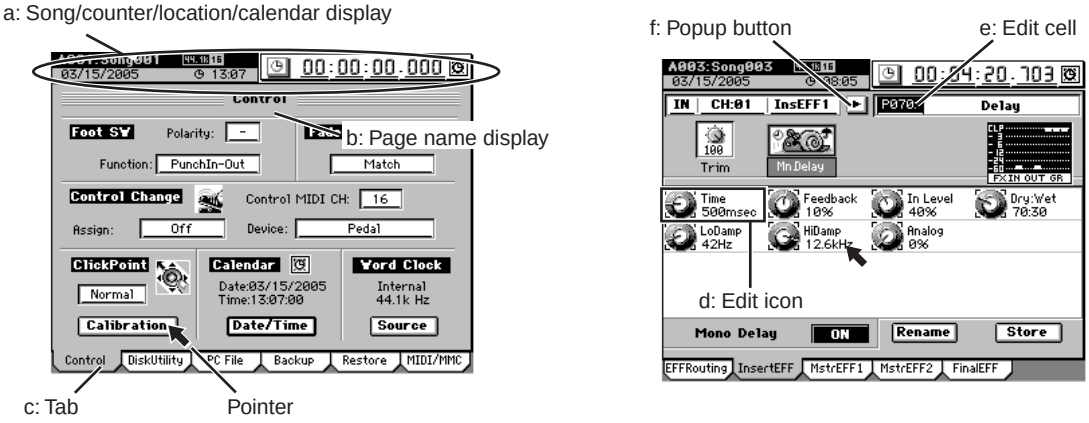
Insert a pin-like object of less than 1 mm diameter, such as a straightened paper clip, into the manual eject pinhole and push. The disc tray will be forced open.

Excessive use of this method may cause the disc drives to malfunction.

This procedure must be performed with the power off.

Items and functions in the LCD screen

Use the ClickPoint to move the pointer (↖) to a button or icon displayed in the LCD screen. Then press the center of the ClickPoint to select that button or icon. In many operations, you can use the pointer (↖) to select the item or parameter to be edited or saved, such as the page, parameter value, or song name.
In this manual, references to the … button, … tab, … cell, or … icon refer to items shown in the LCD screen. Move the pointer (↖) and press the center of the Click-Point to select the desired item. We'll use the term "click" to describe this process.
You can also use the cursor keys of the edit controller to move to the item you want to edit, or use the **YES/NO** (TAB PAGE) keys instead of the **Yes (OK)/No (Cancel)** buttons in the LCD screen, or use the **ENTER** key to confirm a setting or operation.
References to "... key," "... knob," "... dial," or "... slider" indicate controls on the top panel; use the corresponding physical controller to access these items.



a: Song / counter / location / calendar display

This area displays the currently selected song, the counter (song position), and the date.
This is displayed in any page mode, and you can modify the counter / calendar setting.

You cannot modify these settings while a dialog box is displayed.

If you haven't set the date and time, this area is shown in gray.

b: Page name display

This indicates the name of the currently selected page, or editing information. This item does not appear in certain pages such as the effect pages or **"Mixer View."**

c: Tab

Use the pointer or the **TAB PAGE** keys of the edit controller to select a tab page.

d: Edit icon

When you click an icon such as a fader or knob shown in the LCD screen, a frame will appear (in most cases) around the icon. This is called the edit icon; changes you make will apply to the parameter whose icon is enclosed by the frame.

e: Edit cell

When you click a parameter in the LCD screen, the parameter value will be highlighted. This is called the edit cell; changes you make will apply to the highlighted area.

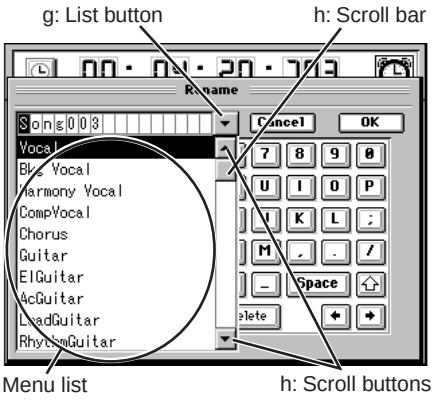
f: Popup button

When you click one of these buttons, a dialog box will appear, displaying parameters and values for you to select.

When you've finished selecting a parameter or editing a value, press the front panel **YES** key or **NO** key to close the dialog box and return to the previous tab page. You can also close the dialog box by clicking the **Yes** (or **OK**) button or **No** (or **Cancel**) button in the LCD screen.

g: List button

When you click this button, a menu list will appear, allowing you to select an item from this list.



h: Scroll bar / scroll buttons

Use these to move up and down through a list of parameter values that extends beyond the window in the display.

i: Confirmation button

When you click this button, a dialog box will open, asking whether you are sure you want to execute the settings or the operation. Some dialog boxes may contain an edit cell for you to specify a value.
Press the front panel **YES** key or **NO** key to close the dialog box and return to the original tab page.
You can also close the dialog box by clicking the **Yes** (or **OK**) button or **No** (or **Cancel**) button in the LCD screen.

j: Radio buttons

Use the radio buttons to chose one of the displayed items.

k: Toggle button

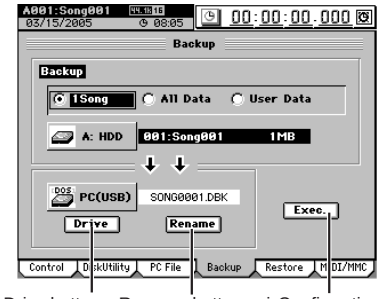
This type of button will either change function or toggle between on / off each time you click it.

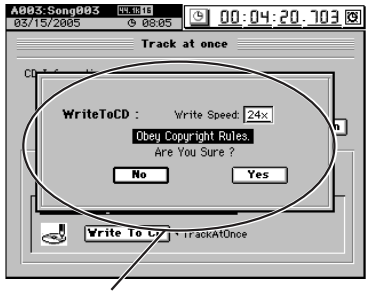
l: Check box

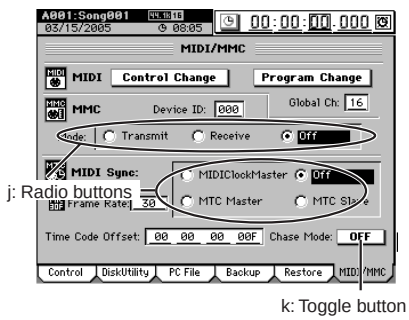
Each time you click one of the check boxes, a check mark will either be added or removed. Add a check mark if you want to enable that function.

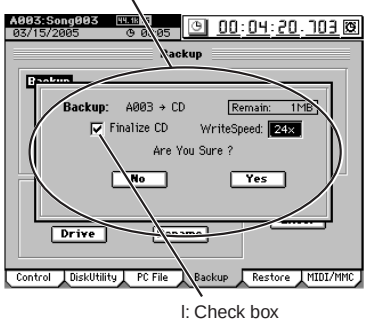
* Other

In addition to the items listed above, the **Drive** button will open a dialog box where you can select a drive for editing, and the **Rename** button will open a dialog box where you can rename a song or program.
There are also certain screens, such as the routing confirmation screen, that provide valuable information, but contain no editable items.









Basic operation

1. Selecting the page mode

If you want to edit a setting or function while watching it in the LCD screen, you'll need to press a key to access the page mode that contains that function. The **MIXER** key and **CD** key will display a page jump menu in the LCD screen; click the page mode buttons shown in the LCD screen to select the desired mode. Each time you press the **MIXER** key or **CD** key, you will return to this page jump menu.

note *For details on the functions of each page mode, refer to "Reference" (→p.98–).*

2. Selecting a tab page

The numerous parameters contained in each page mode are in turn divided into tabs. Use the **TAB PAGE** keys of the edit controller to select a tab page. You can also move to a tab page by clicking its tab in the LCD screen. Some pages contain only one tab.

3. Selecting and setting parameters

Selecting a parameter

To select a parameter, click the edit icon, edit cell, or button shown in the LCD screen.
In most cases, you can use the **cursor** keys to move between parameters and press the **ENTER** key to select one.

*You cannot use the **cursor** keys to move between a dialog box and the original tab page.*

Setting a parameter

There are different methods of setting a parameter, depending on the type of parameter.

○ Edit icons, edit cells, buttons

Click the edit icon, edit cell, or button in the LCD screen to highlight it, and then turn the **value dial** (or use the **+/–** keys) to set the value. If ▼/▲ buttons are displayed in the LCD screen, you can click these buttons as well.

○ Popup buttons, dialog boxes

Click the popup button in the LCD screen to access the dialog box, and then select the parameter value in the LCD screen. You can also use the **value dial** (or **+/–** keys) to select the parameter value.

○ Toggle buttons

Toggle buttons in the LCD screen will alternate between on and off each time you press them. You can also use the cursor keys to highlight the button and then press the **ENTER** key to switch the function on and off.

○ Radio buttons

Click a button in the LCD screen to select it. In addition, you can use the cursor keys to highlight the button and then press the **ENTER** key to select it.

○ Selecting one item from a menu list

- Click the desired item from the list shown in the LCD screen to select it.
- Click the ▼/▲ buttons in the LCD screen to move the highlighted area.
- Use the **value dial** or **+/–** keys to make your selection.

Fader or pan settings

You can adjust the fader of each channel independently. To adjust the pan, press the **PAN** key to access the **"FADER PAN"** tab page, and use the **Knob Matrix**.

Send and equalizer

When you're in a tab page where you can edit parameters, or if you've pressed the **SEND** key or **EQ** key to access the tab page, you can use the **Knob Matrix** to edit the parameters or values.

Editing effects

When the effect parameter knobs are shown in the LCD screen, or if you've pressed the **EFFECT** key to access the tab page, you can use the **Knob Matrix** to select parameters or edit their value.

Selecting a channel

If the **CH SELECT** key is lit, you can press the **channel key** of the desired channel to directly select it for editing.

Switching between channels 1–16 and 17–32

In the case of parameters for which the LCD screen cannot display all 32 channels at once, sixteen channels will be displayed at a time, depending on whether the **1–16** key or **17–32** key is lit.

4. Panel key combination shortcuts

By pressing two of the panel keys simultaneously, you can use various shortcuts such as moving between pages, switching functions, or changing the location.

Some examples of shortcuts

- Hold down the **SONG** key and press the **+** key or **–** key to increment / decrement the song number.
- Hold down the **MIXER** key and press the **LOC 1**, **2**, **3**, or **4** key to recall the memory page.
- Hold down the **MIXER** key and press the ▲ key or ◄ key to increment the **MIXER** page.
- Hold down the **MIXER** key and press the ▼ key or ► key to decrement the **MIXER** page.
- Hold down the ▲ key and press the **SYSTEM/MIDI** key to display the calendar dialog box.
- Hold down the ▲ key and press the **SESSION DRUMS** key to switch the TimeDispType.
- Hold down the **SYSTEM/MIDI** key and press the **ENTER** key to enter USB mode.

There are many other shortcuts in addition to those listed above. Refer to the list of shortcuts (→p.178).

Examples of operation

You can use the sixteen control knobs of the Knob Matrix in the following tab pages. In pages where there are seventeen or more knob icons, you can hold down the **JUMP** key and use the cursor keys to switch between groups of sixteen knobs for editing.

CH VIEW page	Ch View tab page
EFFECT page	InsertEFF, MstrEFF1, MstrEFF2, and FinalEFF tab pages
SEND page	EFFSend1, EFFSend2, Aux1Send, and Aux2Send tab pages
EQ page	EQ / ATT and MasterEQ tab pages
FADER page	Fader Pan and Mixer View tab pages
SOLO page	CueLevel tab page
CH INPUT page	SubMix1-4, SubMix5-8, and SubMix9-12 tab pages
DRUMKIT screen	
METER screen (when FaderView is selected)	

Figure 1 shows the **EFFECT**, **"MstrEFF1"** tab page.
To select this tab page, press the top panel **EFFECT** key, and then click the **"MstrEFF1"** tab in the LCD screen.

In this screen, the knob icons are linked with the **Knob Matrix** below; you can move a **knob** to edit the value directly. Knobs for which no knob icon is shown have no effect.

Figure 2 is the **MIXER**, **FADER/PAN/AUTOMATION** **"Fader Pan"** tab page. To select this tab page, press the direct key **PAN**. Alternatively, you can press the **MIXER** key and then click the screen.

In this screen, moving the fader or **Knob Matrix** (corresponding to pan for each channel) of the desired channel will automatically select that channel, and change its fader or pan value.

Figure 3 is the **CH VIEW**, **"Ch View"** tab page.

To select this tab page, press the direct key **CH VIEW**.
You can also click the screen to select this tab page after pressing the **CH VIEW** key.
In this screen, the fader, EQ, and Send are controlled directly by the fader of that channel and by the **Knob Matrix**.

Figure 1

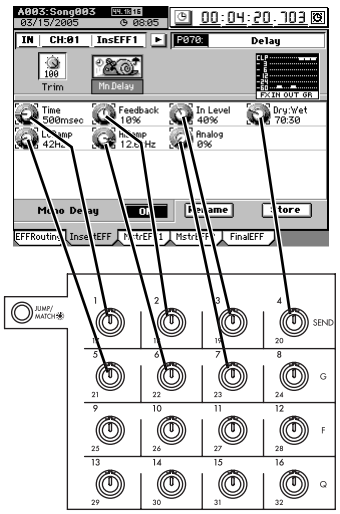


Figure 2

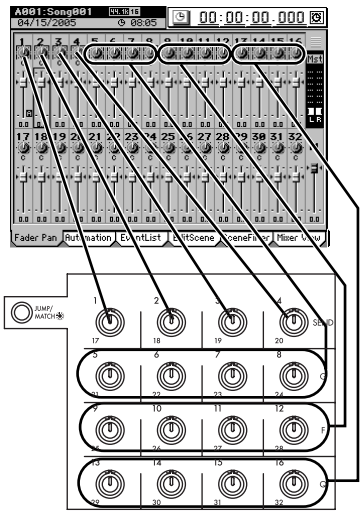
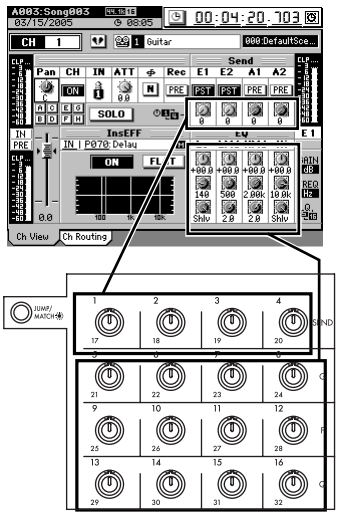


Figure 3



Quick Start

This Quick Start is designed to provide a few examples of some common tasks, while helping you get familiar with the operations of the D3200.

Step 1: Preparations

The first step explains how to connect your monitor speakers or headphones, how to turn the D3200 on, and how to listen to the demo songs.

Step 2: Quick recording

This step will cover how to connect a guitar, keyboard, or mic to the D3200, how to record your performance on to a track, and how to play back the recording and listen to the results.

Step 3: Overdubbing

Overdubbing allows you to record additional tracks as you play along with the performance you recorded in step 2.

Step 4: Mixdown and mastering

In this step you can apply effects and EQ to each track to adjust the overall balance.

Finally, you can apply effects and EQ to the entire song to add overall compression and tonal adjustments, and mix your song down to the stereo master track.

Step 1: Preparations

1. Connections

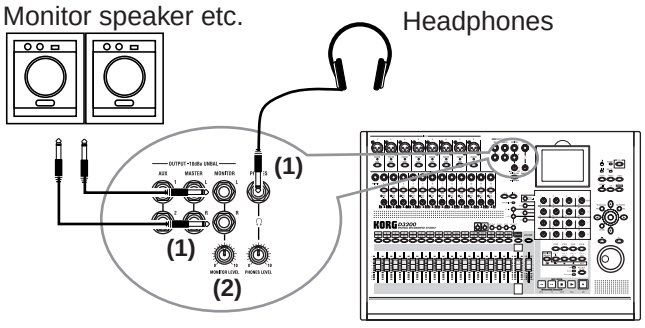
Please note the following items before you begin.

The D3200 automatically stores the date and time each time a song is saved, so that you can tell when a song was updated. Before you begin, we recommend that you set the date and time (→p.2 “Setting the calendar”).
If you’re not sure how to use the buttons or icons that appear in the LCD screen, refer to “Items and functions in the LCD screen” (→p.13).

Connections

(1) Connect the MONITOR L/R jacks to your monitor speaker system, or connect a set of headphones to the PHONES jack.

(2) Set the MONITOR LEVEL knob to –∞. If you are using headphones, set the headphone PHONES LEVEL knob 1 all the way to the left.



2. Turn the D3200 on

Connect the AC power cable (included), and turn on the power.
Be sure to use the procedure described in “● Power-on” (→p.1).

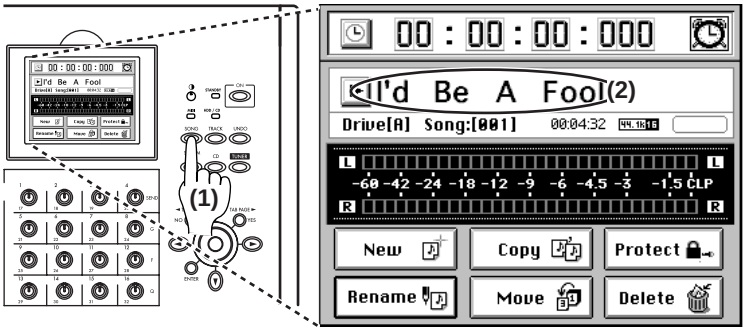
Use an independent AC outlet whenever possible. If a circuit breaker should trip for some reason, any unsaved data will be lost and the internal hard drive or CD-R/RW may be damaged.

3. Listen to the demo song

When it ships from the factory, the D3200 contains pre-recorded demo songs. This section explains how to listen to one of the demo songs.

(1) Press the SONG key.

(2) Make sure that the demo song is shown in the upper part of the screen.



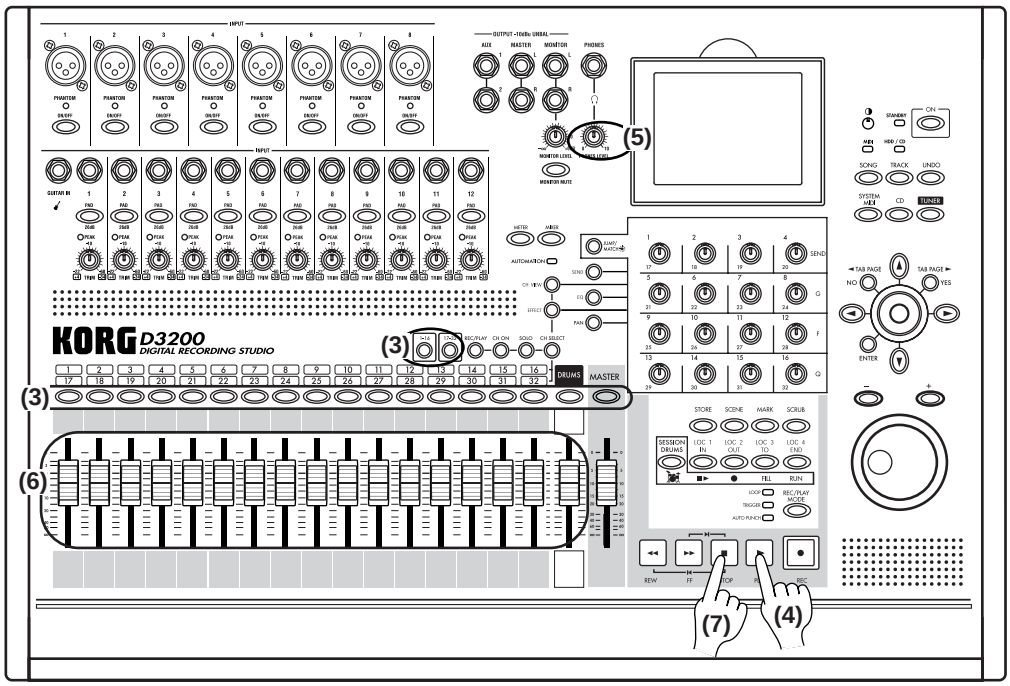
(3) Set all the channels to play mode.
Press the **REC/PLAY** key, and check that the track 1 through 16 channel keys are set to Play (lit green). Press the 17–32 key and make sure that the track 17 through 32 channel keys are also set to Play (lit green).
If any key is set to Record (lit red), press that key to change the status to Play (lit green).
If the key located above the master fader is lit, press it several times to make it go dark.

(4) Press the PLAY key to start playing the demo song.

(5) Adjust the Monitor Level.
Slowly turn the MONITOR LEVEL knob toward the right to adjust the play-back volume. If you have connected headphones, turn both the **MONITOR LEVEL** knob and the **PHONES LEVEL** knob slowly toward the right to adjust the volume.

(6) Adjust the "mix."
While the song plays, operate the channel faders and notice how the balance between the tracks changes.

(7) When the demo song ends, press the STOP key.
Hold down the **STOP** key and press the **REW** key to return to the beginning of the song (→p.37 "2. Location").



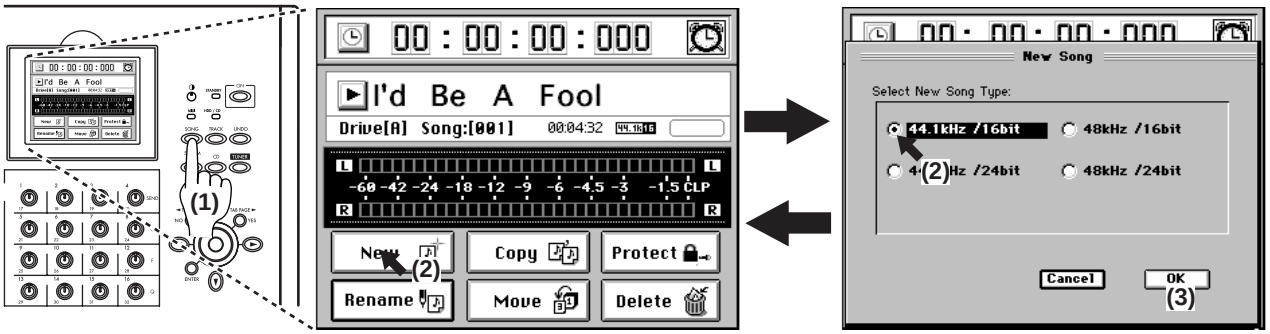
Step 2: Quick recording

1. Create a new song

In order to begin recording, you must first create a new song.

(1) Press the SONG key to access the SONG page.

(2) Click the New button. The New Song dialog box will appear.



In the "Select New Song Type" area, select the desired sampling frequency and bit depth for the song that you want to create.
For this example, click **44.1 kHz/16 bit**.

(3) Create the song.

Click the **OK** button in the screen (or press the panel **YES** key). A new song named **"Song□□□"*** will be created following the last existing song.
The newly created song will be selected, and will appear in the **SONG** page.

note *You can change the location (song drive) in which the song is created (→p.36 "Selecting a song from another song drive").*

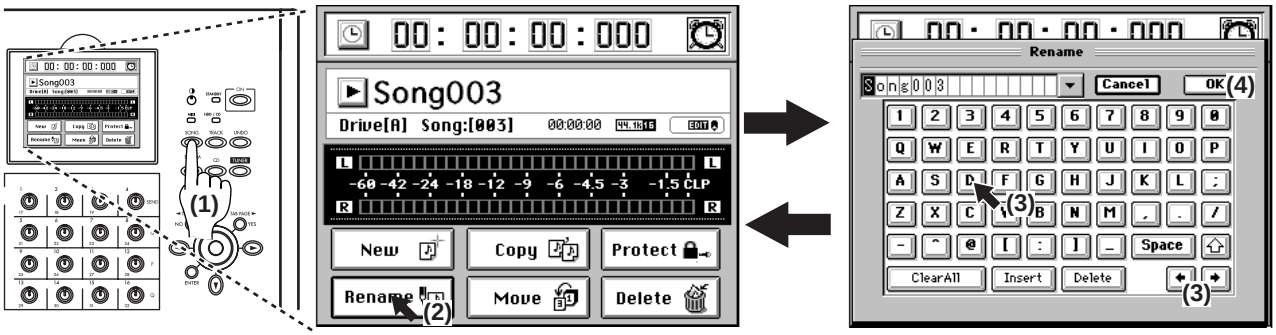
2. Name the song

Here's how to rename the newly created song.
Before you start recording, we recommend that you give your song a name that will help you recognize the content of the song.

(1) Press the SONG key to access the SONG page.

Here you can edit the name of the song that's displayed. If you want to select a different song, refer to "1-3. Selecting a song" (→p.36).

(2) Click the Rename button to display the Rename dialog box.



(3) Edit the song name.

When you press a character or numeral button, the highlighted character in the song name will change.

The highlighted area will then move one step toward the right. Repeat this step to edit the song name.
If you want to edit only a portion of the song name, click the ◀ ▶ buttons to move the highlighted area, and then click a character or numeral button.

Use the buttons in the LCD screen to perform the following operations.

"0...9": Input a numeral (e.g., "0")

"A...@_...": Input an alphabetical character (e.g., "A") or symbol (e.g., @, _).

Space: Input a space.

⇧: Switch the alphabet buttons between lower case and upper case.

Insert: Insert a space, and move the subsequent characters backward.

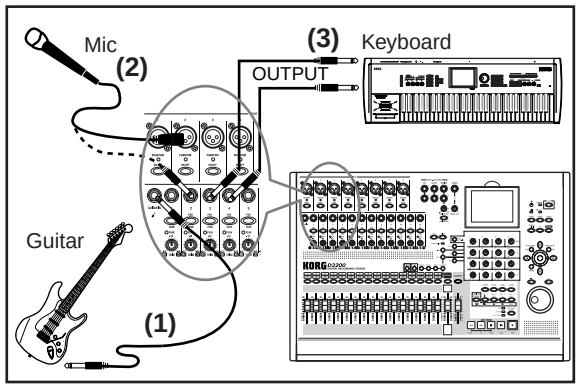
Delete: Delete the character at the cursor location.

ClearAll: Erase the entire name.

(4) Confirm the changes.
When you have finished naming your song, click the **OK** button in the LCD screen (or press the panel **YES** key).
If you decide to discard the change you made, click the **Cancel** button in the LCD screen (or press the panel **NO** key).

3. Connect your audio sources to the mixer inputs

The mixer can accept twelve channels of analog inputs, two channels (one stereo pair) of digital (S/P DIF) input (→p.44 "1-2. Digital input"), and a stereo input from the internal Session Drums (→p.59 "Recording patterns on a track"). Here we'll explain how to connect analog audio sources to channels 1-4.



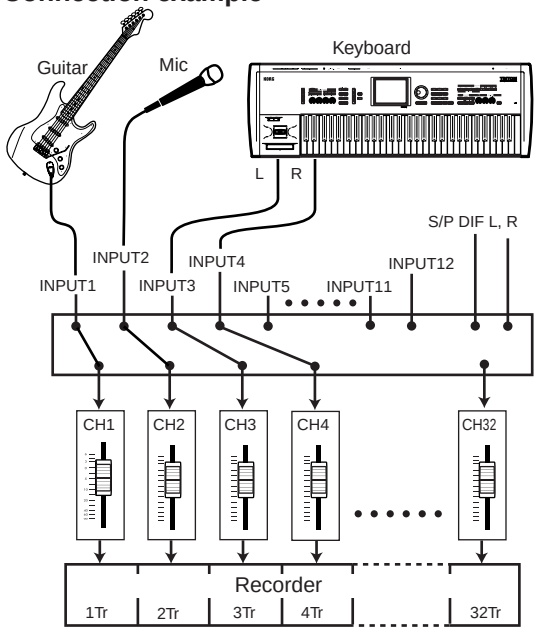
Connect mics and instruments to the INPUT jacks

Microphones, guitars & basses, and keyboard/synthesizer instruments all have different output levels and require different input connections. Here, we'll give an example of each type.

(1) Connect a guitar to the guitar input.
Rotate the **INPUT 1 TRIM** knob all the way to the left, and connect your guitar to the **GUITAR IN** jack. The **GUITAR IN** jack is shared with **INPUT 1**, and the two cannot be used simultaneously. (→p.7 "3 GUITAR IN jack")

(2) Connect a microphone to one of the analog inputs.
Rotate the INPUT 2 TRIM knob all the way to the left, and connect a mic to one of the INPUT 2 jacks. Microphones will generally connect to the XLR inputs, although some will have plugs that can connect to the TRS balanced phone jacks. Additionally, some microphones require phantom power from the mixer. Each of the D3200's XLR inputs are equipped with switchable phantom power supplies. Be sure and choose the right connection for your microphone. And never connect or disconnect a microphone while the phantom power is on.

Connection example



(3) Connect the stereo outputs from a keyboard to a pair of TRS phone jack inputs.
Rotate the INPUT 3 and 4 TRIM knobs all the way to the left, and connect the outputs of your keyboard to the INPUT 3 and 4 phone jacks.

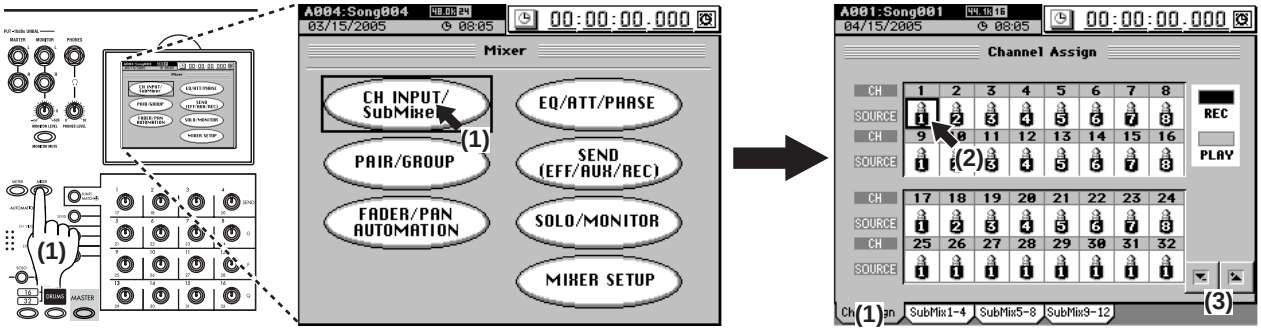
Assign the inputs to channels

Each of the inputs needs to be assigned to a channel. First, let's assign the guitar input to channel 1.

(1) Call up the input assignment page.
Press the MIXER key, and then click the page jump menu CH INPUT / SubMixer button to access the "Ch Assign" tab page.

(2) Select a channel.
In the tab page, click the CH1 SOURCE channel icon. The icon will be enclosed by a frame.

(3) Select an input.
Click the ▼- / ▲ buttons to assign "1" (INPUT 1) as the input source for channel 1 (CH1 SOURCE).
You can also use the **value dial** or the **+/–** keys to change this setting.

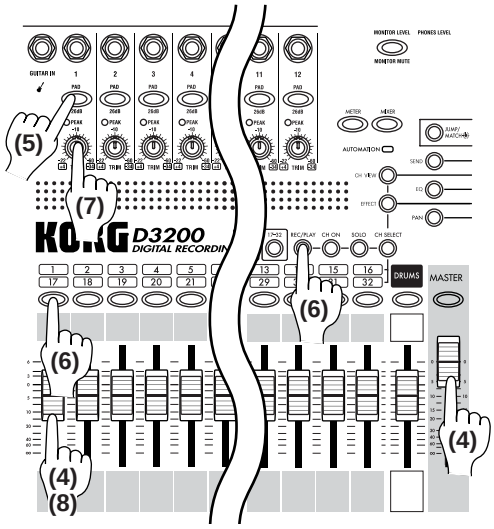


Adjust the CH 1 input level to verify that the sound of the guitar has been assigned.

(4) Set the fader levels.
Lower the CH1 fader to "–∞", and raise the MASTER fader to the "0" position.

(5) Using the input PADs.
The pad lowers the input signal by an additional 26dB. For a mic or guitar, leave the **PAD** key unpressed when making your settings. For a line-level output, such as from a keyboard, press the **PAD** key to the in position (on) when making your settings.

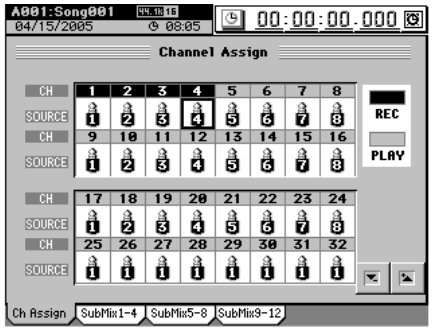
(6) Arm channel 1 so you can monitor the input.
Turn on the REC / PLAY key, and press the CH1 channel key to select Record (key lit red).



(7) Set the trim level.
As you play your guitar, the INPUT 1 peak indicator (the LED at the upper left of TRIM) will light. Adjust the **TRIM** knob so that your loudest playing does not cause the LED to light red.

(8) Set the fader level for monitoring.
Gradually raise the CH1 fader while playing your guitar, and you will hear sound from your monitor speakers.
If you are using headphones, adjust both the **PHONES LEVEL** knob and the **MONITOR LEVEL** knob.

Using these same methods, we can assign the mic and keyboard inputs to their own channels.



(9) Assign input 2 to channel 2.
Click the CH2 SOURCE channel icon, and assign "2" (INPUT 2) as the input source for channel 2 (CH2 SOURCE).
Using this setting, the sound of the mic connected to INPUT 2 will be sent to CH2. Set and check the mic level as described in steps (4)–(8).

(10) Assign input 3 to channel 3.
Click the CH3 SOURCE channel icon, and assign "3" (INPUT 3) as the input source for channel 3 (CH3 SOURCE). Repeat this step and assign "4" (INPUT 4) as the input source for channel 4 (CH4 SOURCE).

Using these settings, the keyboard connected to INPUT 3 and 4 will be assigned to CH 3 and 4. Set the pan knob of channel 3 all the way to the left; set the pan knob of channel 4 all the way to the right. Now you can monitor your keyboard in stereo.
Check the keyboard sound and set the level as described in steps (4)–(8).

4. Adding EQ and EFFECTS

If you want to record without any further processing, proceed to "5. Recording." If you want to use each inputs's 4-band parametric EQ and / or apply the D3200's internal effects as you record, read the following sections: "Applying EQ to the input sound" and "Applying effects to the input sound."

Applying EQ to the input sound

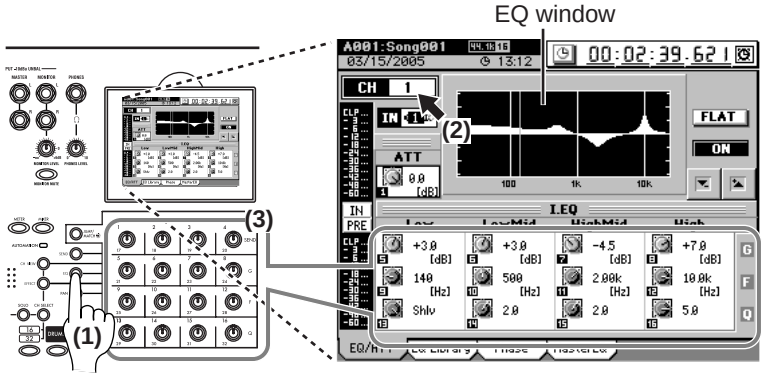
note *On the D3200 it's also easy to apply EQ after recording.*

Channels 1–23 are equipped with a four-band parametric EQ to shape the tonal characteristics of the sound. Channels 24–32 feature a two-band shelving EQ. In the next example, you can apply EQ to your guitar.

(1) Press the EQ key to access the "EQ/ATT" tab page.

(2) Choose a channel.
Click the CH cell, and use the value dial or the panel + or – keys to select channel 1, the channel assigned to your guitar input.

note *Alternatively, you can press the **CH SELECT** key and turn on a **channel key** to select the channel.*



(3) Use the Knob Matrix to adjust the EQ.
As you play, use the **Knob Matrix** to adjust the gain, center frequency, and Q values for each of the EQ bands.
The resulting EQ curve will be displayed in the EQ window.

*If the level meter clips, press the **ATT** knob icon in the LCD screen and adjust it to a value that does not cause clipping. Keep in mind that if you are boosting the gain in multiple bands, you are increasing the level of the signal overall, and you will need to use the **ATT** knob to control the level. Instead of increasing the gain in multiple bands, you might try decreasing certain bands, but keeping the difference in gain between the bands the same. This will keep the level more consistent and avoid distortion.*

You can apply EQ to the mic and keyboard inputs as using the same method.

(4) Adjust the EQ settings of channel 2.
Click the CH cell and use the value dial or the panel + or – keys to select the channel assigned to your microphone input 2 (channel 2).
Now you can apply EQ to the mic connected to INPUT 2. Adjust the EQ as described in step (3).

(5) Adjust the EQ settings of channel 3.
Click the CH cell and use the value dial or the panel + or – keys to select the first channel assigned to your keyboard. In this example, input 3 (channel 3).
Now you can apply EQ to one channel of the stereo keyboard connected to INPUT 3. Adjust the EQ as described in step (3).

(6) Adjust the EQ settings of channel 4.

Click the CH cell and use the value dial or the panel + or – keys to select the other channel assigned to your keyboard. In this example, input 4 (channel 4).

You can apply EQ to the other channel of the stereo keyboard connected to INPUT 3. Adjust the EQ as described in step (3).

The D3200 allows you to "pair" adjacent pairs of channels (odd, even). If you pair the two keyboard channels, the EQ settings you make for one channel will also be applied to the other channel as well, so you do not need to EQ each channel separately. (→p.46 "3-5. Pairing").

Applying effects to the input sound

note *It's also easy to apply the D3200's effects after recording the sound (→p.28).*

Here's how to apply effects to the input from your guitar. First, let's assign insert effect 1 to channel1; the guitar's input channel.

(1) Press the EFFECT key and select the "EFFRouting" tab page.

(2) Assign the effect routing.

Click the InsEFF1 IN / TR cell (it will become highlighted) and use the value dial or the + / – keys to select "IN."

IN stands for Input, and **TR** stands for Track; choose **IN** if you want to apply the effect to the input sound, or **TR** if you want to apply the effect to the playback.

(3) Select a channel.

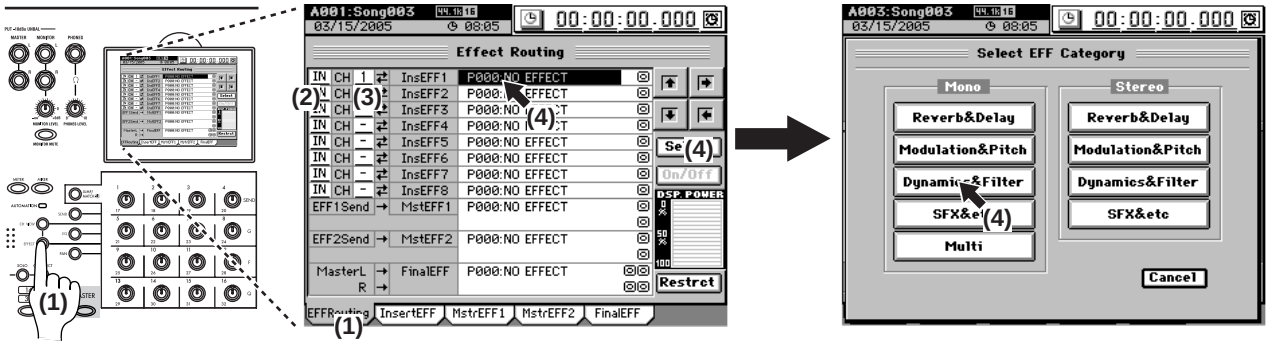
Click the InsEFF1 CH cell (highlighted) and use the value dial or the + / – keys to select "1."

Insert Effect 1 is now assigned to the guitar's input channel. Next, let's choose an effect.

(4) Choose an effect type.

Select the InsEFF1 edit cell (highlighted), click the Select button. The Select EFF Category dialog box will appear. Here you can select what type of effect you want to use on the guitar.

For this example, click **"Dynamics&Filter"** from the **"Mono"** category.

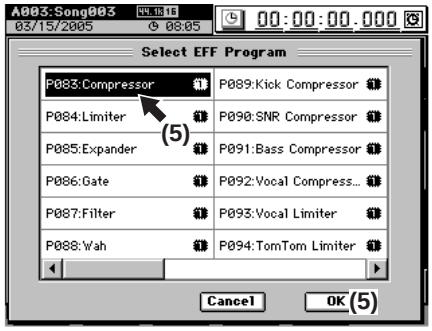


(5) Choose an effect program.

The Select EFF Program dialog box will appear. Now you can select the effect.

For this example, click "Compressor" and then click the **OK** button in the LCD screen (or press the panel **YES** key).

Insert effect 1 is now applying a **"Compressor"** to the guitar sound assigned to channel 1.



You can apply effects to the mic and keyboard inputs in the same way. Here are a couple more examples.

(6) Assign insert effect 2.

Set InsEFF2 to IN, and set the CH to 2.

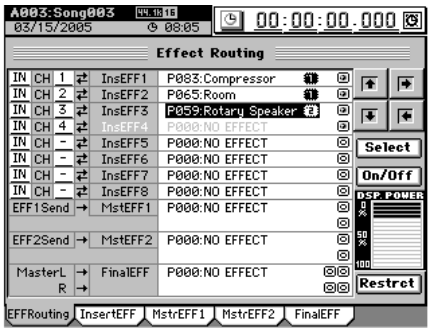
Click the **InsEFF2** edit cell and select the **"Room"** effect from **"Reverb&Delay"** in the **"Mono"** category.

(7) Assign insert effect 3.

Set InsEFF3 to IN and CH to 3, and set InsEFF4 to IN and CH to 4.

In the **InsEFF3** edit cell, select the **"Rotary Speaker"** effect from **"SFX&etc"** in the **"Stereo"** category.

Because this is a stereo effect, the same effect will automatically be selected for InsEFF4. (→p.54 "Effects")



For details on editing the parameters of the effects you selected, refer to "4. Editing the effects" (→p.56).

5. Recording

Now you're ready to record. In this example, let's record the guitar.

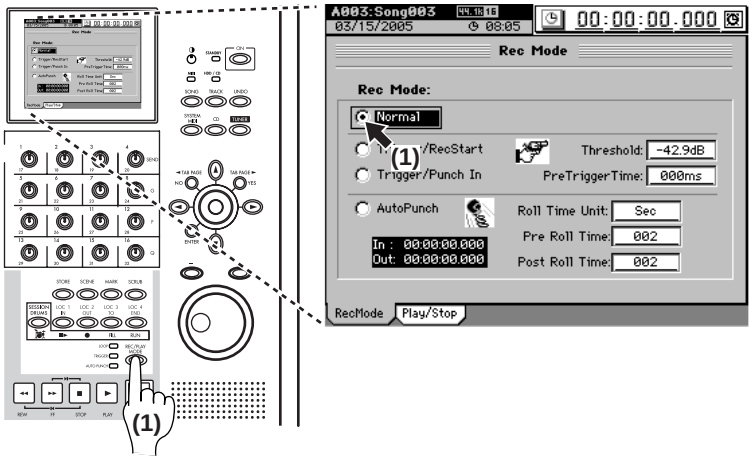
Preparations for recording

(1) Setting the recording mode

Press the **REC/PLAY MODE** key. In the **"RecMode"** tab page, click the **radio button** to select **"Normal."**

(2) Select the recording status.

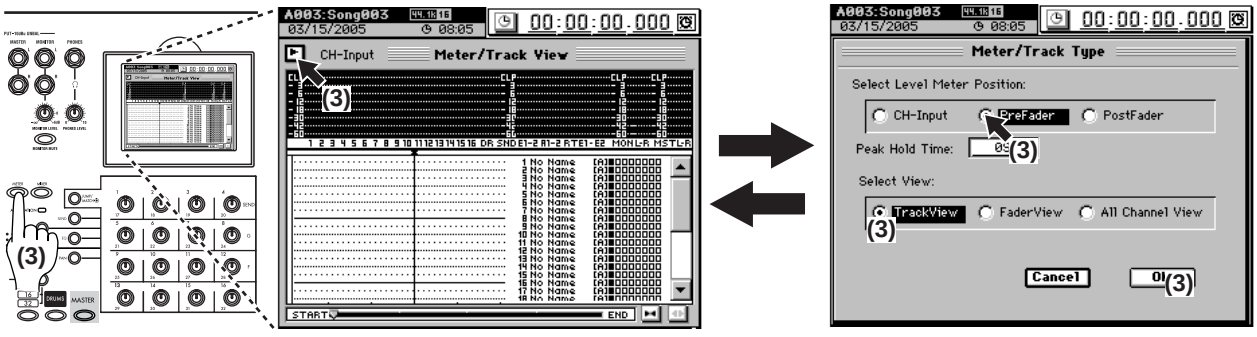
On the D3200, the recording signal of each channel can be sent from either Before (PRE) the fader, or after the fader (PST). Press the **SEND** key, and in the **"RecSend"** tab page, make sure that the channel you're recording is set to PRE. If it is set to PST, click the button to change the setting to PRE.



(3) Set a meter view.

Press the **METER** key.

Click the popup button in the screen to display the Meter / Track Type dialog box.

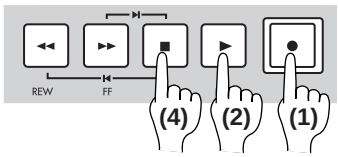


Using the radio buttons, select "PreFader" as the Meter Position, and "TrackView" as the view. Then click the **OK** button (or press the panel **YES** key).

Start recording

The location currently shown in the counter is where the recording will begin. (→p.37 “2. Location”)

(1) Set the D3200 to record-ready.
Press the REC key (the key will blink).



(2) Press the PLAY key.
The D3200 will begin recording, both the REC and PLAY keys will light.

(3) Begin playing your instrument.

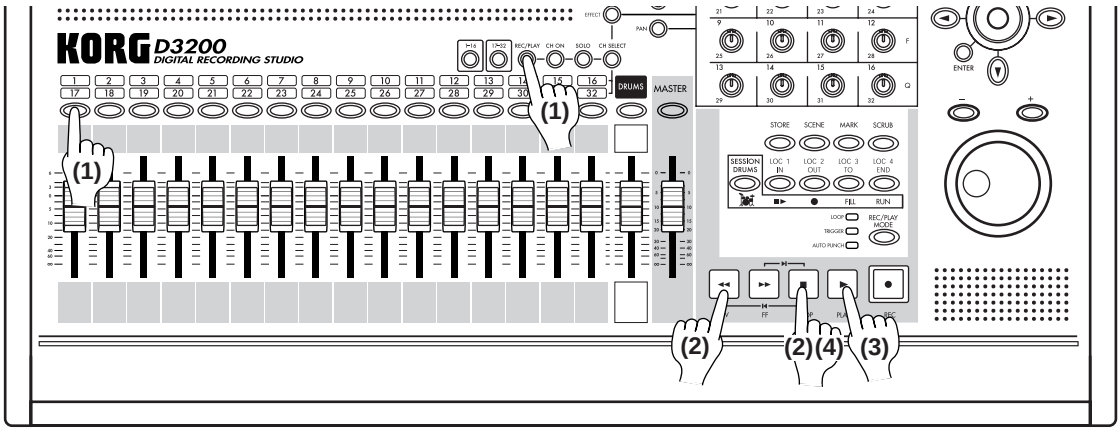
(4) When you have finished playing, press the STOP key to stop recording (the keys will go dark).

The track view will display a bold line to indicate the region where recording took place. This line indicates the event data. Event data is displayed even for recorded areas where you did not actually play your instrument.

6. Playback

(1) Set channel 1 to play.
Turn the **REC/PLAY** key on. Then press the channel key of track 1 (the track you just recorded) to set it to Play (key lit green).

(2) Return to the beginning of the song.
Hold down the **STOP** key and press the **REW** key to return to the beginning of the song (→p.37 “2. Location”).



(3) Press the PLAY key to begin playback (the key will light).

- You can apply EQ to the playback audio (→p.46 “Applying EQ to the playback”).
- You can adjust the level and pan of the playback audio (→p.45 “3-1. Adjusting the volume,” →p.45 “3-2. Adjusting the pan”).
- You can apply effects to the playback audio (→p.54 “Effects”).
- You can play internal rhythms along with the playback (→p.58 “Session Drums™”).

(4) Press the STOP key to stop the playback (the PLAY key goes dark).

note *Even if there is no event data, playback will not stop until you press the **STOP** key.*

Step 3: Overdubbing

Overdubbing allows you to layer multiple performances. This way, you can record additional tracks, as you listen to the previously recorded tracks play back. In this example, record your mic or keyboard on a new track while listening to the guitar performance that you recorded in the preceding steps.

1. Recording

First, let's arm track 2 to record, and set track 1 to play back.

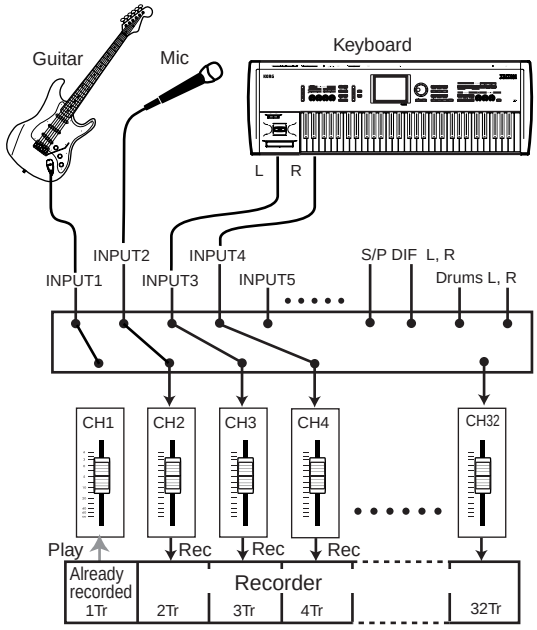
Preparations for recording

(1) Arm track 2 for recording.
Turn the **REC/PLAY** key on.
Press the channel key of track 2, and set it to record; REC (key lit red).

(2) Set Channel 1 to play.
Press the channel key of track 1 and set it to play back; PLAY (key lit green).

(3) Return to the beginning of the song.
Hold down the **STOP** key and press the **REW** key to return to the beginning of the song (→p.37 "2. Location").

Connection example



Start recording

(1) Set the D3200 to record-ready.
Press the **REC** key (the key will blink).

(2) Press the PLAY key.
recording will begin (REC and PLAY keys will light).

(3) While listening to the playback, record an additional part.

(4) When you have finished performing, press the STOP key to stop recording (the key will go dark).

2. Playback

Play back the song to verify that your performance was recorded correctly.

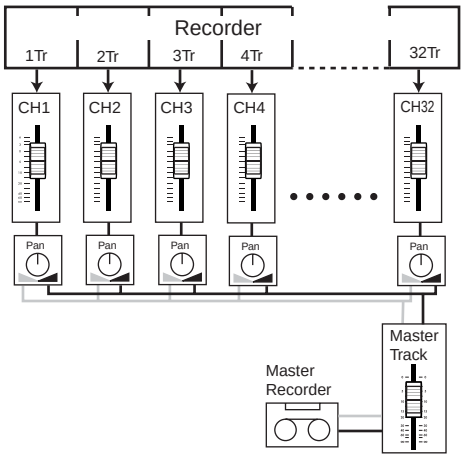
(1) Follow steps (1)–(4) of "6. Playback" in the previous section "Step 2: Quick recording."

Step 4: Mixdown and mastering

"Mixdown" refers to the process of mixing all the individual tracks together to create a stereo mix of your song. In addition to adjusting the pan and level of each track's playback, during mixdown you can also apply insert effects to individual tracks, add master effects, and adjust the EQ settings of the recorded tracks.

After you've mixed-down your song, the next step is to use the master EQ and the final effect to enhance the overall tone and dynamic character of your song to create a finished master; this process is called "mastering."

On the D3200, you can perform mixing and mastering at the same time.



1. Applying effects and EQ to individual channels

Applying effects to individual channels / tracks (Insert Effect)

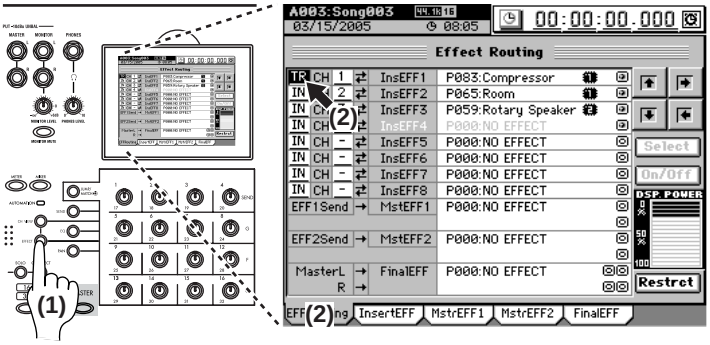
You can apply an effect to the playback of an individual track by assigning an insert effect to that mixer channel.

(1) Press the EFFECT key to access the "EFFRouting" tab page.

(2) Assign effect routing to the playback.

Click the IN / TR cell (it will become highlighted), and use the value dial or the panel + or – keys to select "TR."

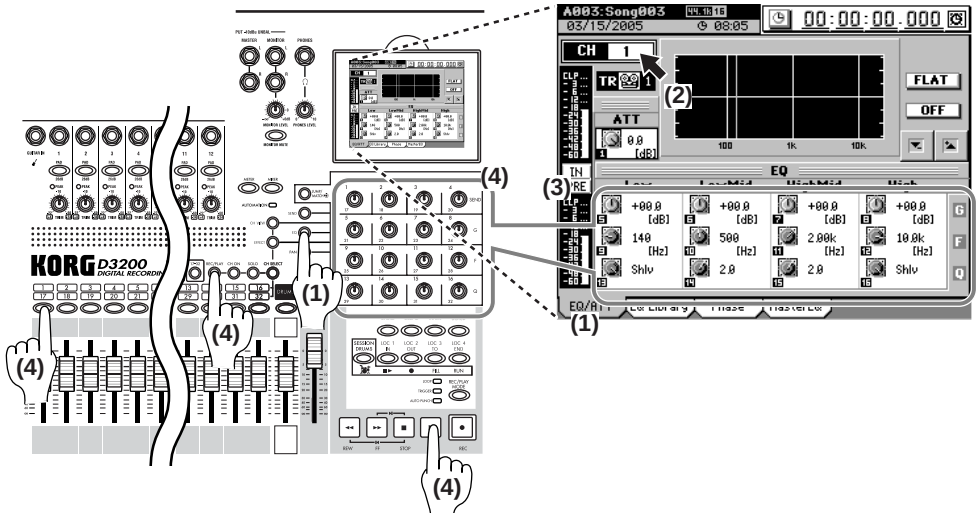
Perform the actions described beginning with step (3) under "Applying EQ to the input sound" (→p.23).



Applying EQ to each channel / track

(1) Press the EQ key to access the "EQ/ATT" tab page.

note *Alternatively, you can access the **"EQ/ATT"** tab page by clicking the **EQ/ATT/PHASE** button of the page jump menu.*



(2) Select a track for EQ.

Click the CH cell, and use the value dial or the panel + or – keys and select one of your recorded tracks that needs more EQ.
Alternatively, you can press the **CH SELECT** key and press a **channel key** to select the channel to which you want to apply EQ.

(3) Set the meters to monitor the input and prefader levels (IN/PRE).

Click the position cell and set it to read **IN/PRE**. These settings allow you to simultaneously check the input signal level, and the level of the signal immediately after the EQ has been applied.

(4) While listening to the playback, use the Knob Matrix to adjust the EQ.

If the track you want to EQ is not playing back, turn the **REC/PLAY** key on, be sure the channel key for that track is set to Play (key lit green).

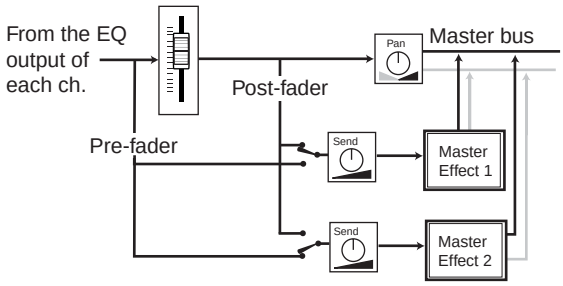
*If the level meter (PRE) clips, click the **ATT** knob icon in the LCD screen and adjust it to a value that does not cause clipping.*

Adjusting the pan

Adjust the stereo position of the playback tracks.
Press the **PLAY** key, press the **PAN** key, and use the Knob Matrix to adjust the stereo position of each track.

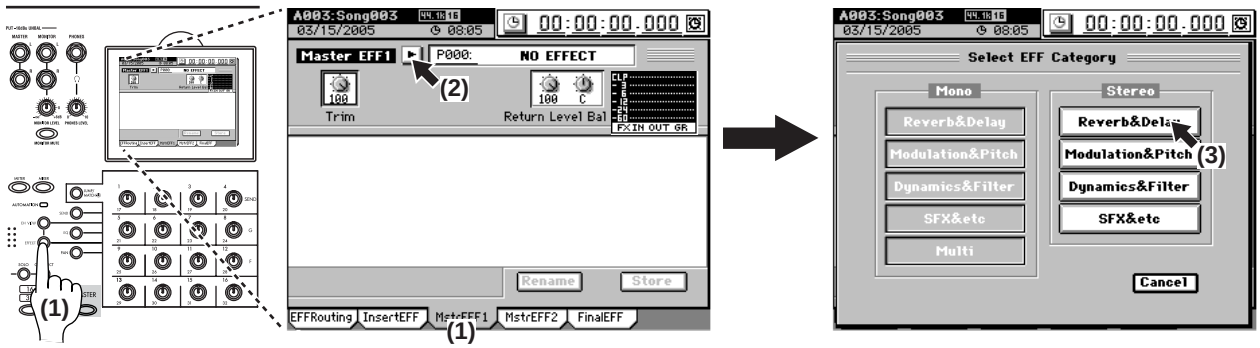
Using the channel / track sends to apply effects (Master Effects)

The D3200 contains two master effects that can be used to apply spatial effects such as reverb.
You can control how much signal from each channel is being sent to each of the master effects. In addition to individual sends, the overall effects balance is also controlled by the effect return level.



Selecting a master effect

(1) Press the EFFECT key to access the "MstrEFF1" tab page.

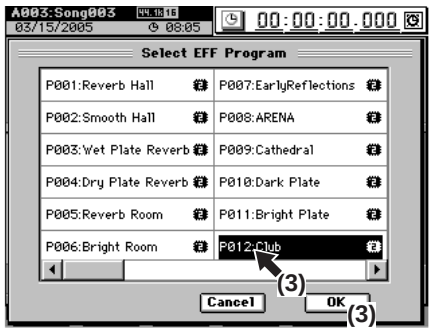


(2) Select an effect type.

Click the popup button beside the effect name, and the Select EFF Category dialog box will appear.

(3) Select an effect program.

Click a category button in the LCD screen, and the Select EFF Program dialog box will appear.
For this example press **"Club"** and then click the **OK** button. If you want to go back and look in another category, click **Cancel** button.

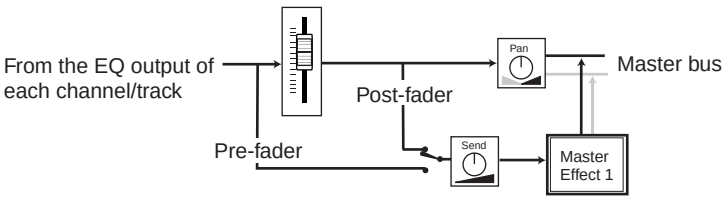


Adjusting the Master Effect 1 Send amount for each track

(1) Press the SEND key to access the "EFF1Send" tab page.

(2) Set the master effect 1 sends to pre-fader.

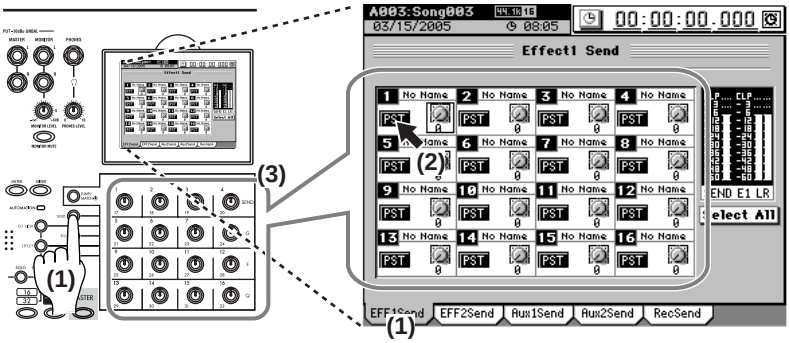
You can choose to send either the pre-fader signal (**PRE**) or the post-fader signal (**PST**) to master effect 1.



Click the **PRE (PST)** button beside the knob icon to make your choice. For this example, select **"PRE"** for all tracks that will be using master effect 1.

(3) Adjust the send amount of each track.

Using the Knob Matrix adjust the send value for your recorded tracks.



Set the send value to **"0"** for any tracks that you don't want to use master effect 1.

(4) Make settings for master effect 2 in the same way, using the "MstrEFF2" and "EFFSend2" tab pages.

Checking and adjusting the master effect

(1) Play back the song.

As the song plays, listen to the output of the master bus to hear the results of your effect settings.

(2) Adjust the return form the master effects.

Press the **EFFECT** key and the"MstrEFF1" (or "MstrEFF2") tab page. Adjust the return level and return balance from the master effect to the master bus. For this example, set **"Return Level"** to **"100,"** and **"Return Balance"** to **"C."**

(3) If the output level meter is clipping, click the TRIM knob icon in the LCD screen, and use value dial or the + or – keys to adjust the trim so that clipping does not occur.

For details on editing the parameters of the selected effect, refer to "4. Editing the effects" (→p.56) in the Operation section.

2. Applying Final (or mastering) effects and EQ to the entire song

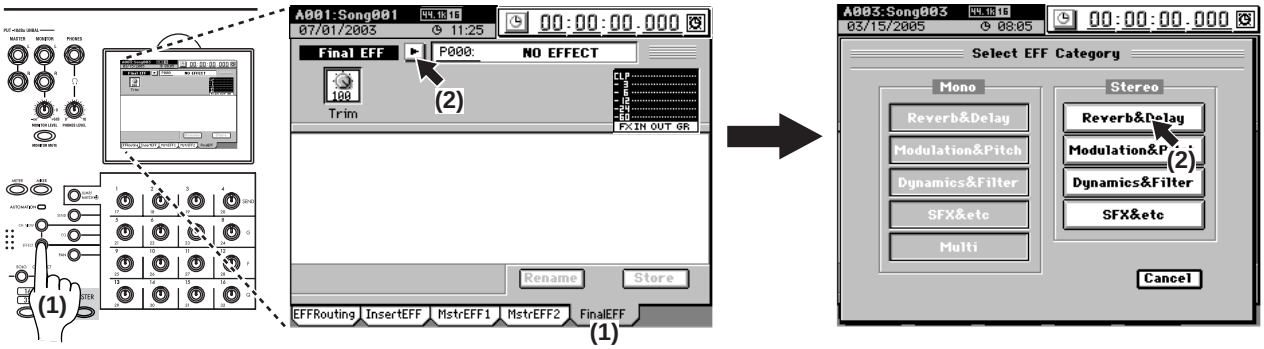
Set the meters to display the post fader levels.

Press the **METER** key.
Click the popup button to open the **"Meter/Track Type"** dialog box.
Using the radio buttons, set the **Meter Position** to **"Post Fader,"** and set **Select View** to **"Track View."** Now the meters will show the level for each fader.

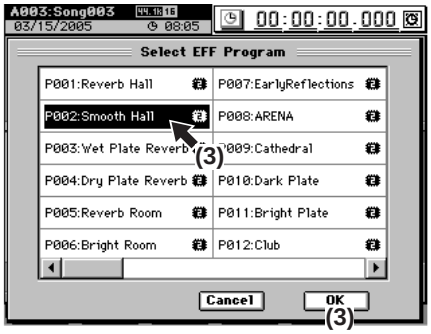
Applying an effect to the master bus (Final Effect)

(1) Press the EFFECT key and select the "FinalEFF" tab page.

(2) Choose an effect category.
Click the popup button to open the Select EFF Category window, and select a final effect category.
For this example select **"Reverb&Delay."**



(3) Choose a final effect.
For this example click **"Smooth Hall"** and then click the **OK** button (or press the panel **YES** key).



(4) Play back the song.
Press the **PLAY** key and listen to the output of the master bus or the headphones to hear the results of the final effect.

(5) Make the desired adjustments, and then press the STOP key.
For details on editing the parameters of the effect that you selected, refer to "4. Editing the effects" (→p.56) in the Operation section.

Applying EQ to the master bus (Master EQ)

(1) Press the EQ key to access the "MasterEQ" tab page.

(2) Link the channels to share settings.

For this example, click the Link button to turn it on (highlighted).
When the **Link** button is on, adjusting either side (left or right channel) will make the same settings for both channels (→p.46).

(3) Make sure that the L button is on (highlighted); the display will show the left channel master EQ screen.

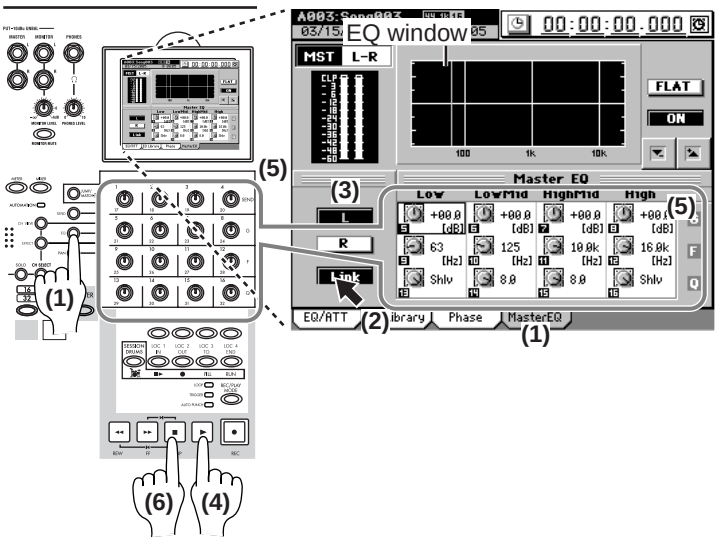
(4) Press the PLAY key.

(5) Adjust the master EQ as the song plays.

While listening to the output of the master bus or headphones, adjust the master EQ parameters using the Knob Matrix.
The EQ window displays the EQ curve. You can switch the master EQ on / off by clicking the **ON/OFF** button in the LCD screen.

*If you want to make independent settings for the left and right master EQ, turn off the **Link** button and use the **R** or **L** button to select right or left.*

(6) When you're done adjusting the master EQ, press the STOP key.



3. Recording the master track

To create an audio CD, you need to create a stereo master track.
There are eight virtual master tracks (per song). This way, you can create various mixes of your song, and compare them before choosing your favorite.

(1) Specify a virtual track.

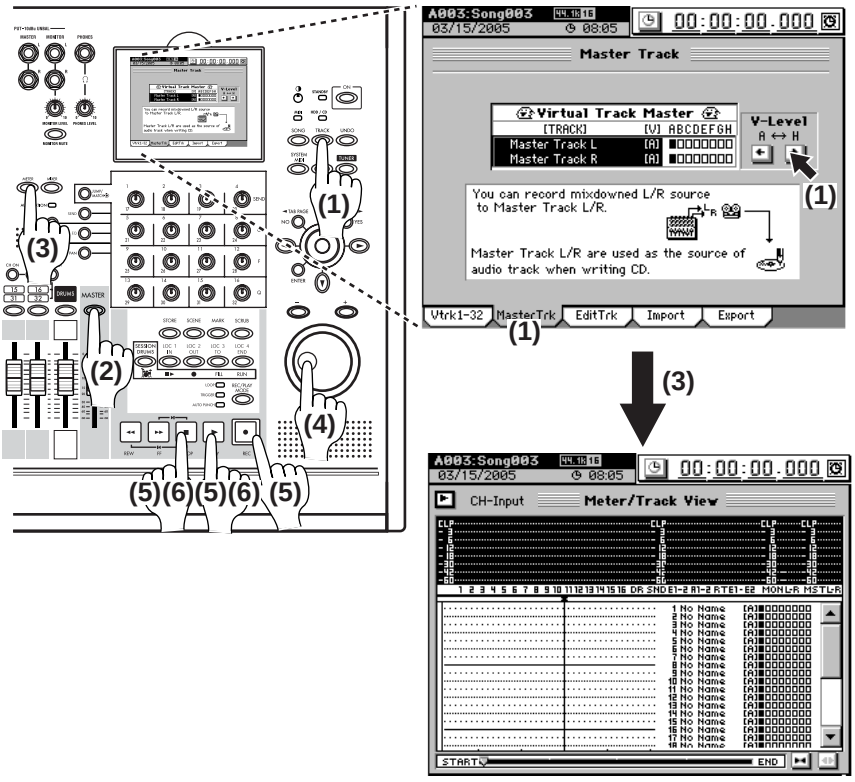
Press the **TRACK** key, select the **"MasterTrk"** tab page, and click the V-Level buttons to select a virtual master track (A–H).

(2) Arm the master track for recording.

Press the **MASTER** key located above the **MASTER** fader to select Record mode (key lit red). The **REC/PLAY** key will automatically be turned on, and the **channel keys** of each track will automatically be set to Play mode (key lit green).

(3) Adjust the recording level.

- Set the **MASTER** fader to **"0."**
- Press the **METER** key.
- Press the **PLAY** key to play back the song.
- While watching the master bus level meter, adjust the **MASTER** fader so that clipping does not occur.



(4) Return to the beginning of the song. (→p.38)

(5) Record the master track.

Press the **REC** key to enter record-ready condition (LED blinking), and then press the **PLAY** key to begin recording (LED lit).
When you finish recording, press the **STOP** key.

(6) Listen to the recorded result.

Press the **MASTER** key located above the master track to set it to play (key lit green).
The **channel keys** of tracks 1–16 will automatically change to muted (key unlit).
Return to the beginning of the song. (→p.38)
Press the **PLAY** key and enjoy your song.

4. Writing to a CD

You can use the disc drive to create an audio CD from the master tracks you recorded.
For details, refer to the Operation section, “CD” (→p.79).

Saving your song

On the D3200, the song data that you have recorded or edited and the parameters that you have set are automatically saved during the power-off operation when you return the D3200 to the standby mode. These settings are also saved when you select a different song. This is called “auto-save.”
You can also save data manually (→p.42 “Saving a song”).

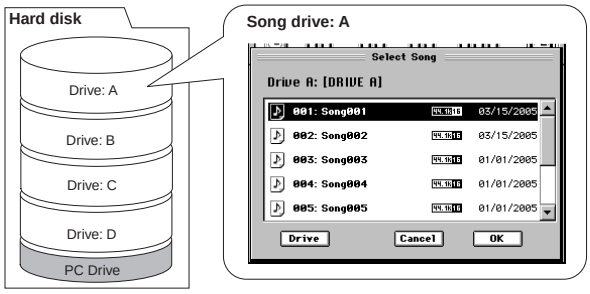
The auto-save that occurs when you select a song does not save the scene or effect settings you were editing. If you want to keep the settings you were editing, you must first return to the appropriate edit screen and Store them (→p.50 “4. Storing/recalling a scene,” p.56 “4. Editing the effects”).

Operation

Song, Locate

Each song drive on the D3200's internal hard disk can store up to one hundred songs.

How the hard disk, drives, and songs are related



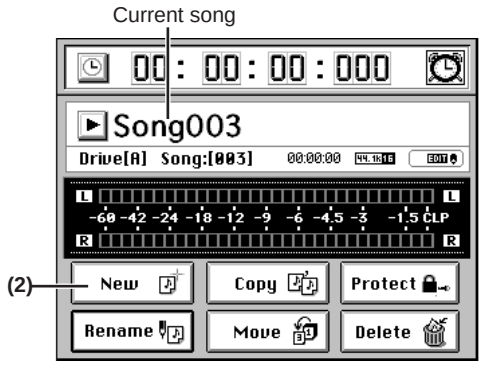
1. Selecting / creating a song

Here's how to create, rename, or select a song.

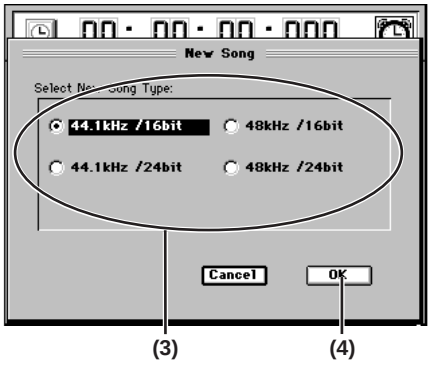
1-1. Creating a new song

In order to begin a new recording, you will first need to create a new song.

(1) Press the SONG key and select the song page.
The upper part of the tab page shows which song is selected as the current song.



(2) Click the New button to display the New Song dialog box.



(3) Click the radio buttons to select the desired combination of sampling frequency and bit depth for your new song.

Maximum number of simultaneously usable tracks for each Song Type

Song Type	Recording	Playback	Punch recording
44.1 kHz/16-bit	16*	32	8
48 kHz/16-bit			
44.1 kHz/24-bit	12**	16	4
48 kHz/24-bit			

note **16 channels is the maximum, combining 12 analog inputs, + 2 digital inputs (S/P DIF L, R), + 2 Session Drums (L, R).*
***12 channels using any combination of analog inputs, digital inputs and Session Drums.*

(4) Click the OK button (or press the panel YES key).
The new song will be created following the last existing song, and will be added to the song list. It will also be selected as the current song.
The song name will automatically be **"Song□□□*"** ("□□□*" will be a consecutive number starting from 001.).
The sampling frequency, bit depth, and date and time of last modification (in this case, the date and time of creation) will be stored, and displayed next to the song name.

If you want to create the new song on a different song drive, click the song list button. In the **Select Song** dialog box, click the **Drive** button to select a different song drive (→p.36 "Selecting a song from another song drive").

*If the Song Type is 48 kHz/24-bit and you record multiple tracks (four or more tracks) simultaneously, there is a increased possibility that the state of the hard disk recording area (i.e., fragmentation) will cause the **"Disk too busy."** message to appear. We recommend that you always execute **"OptimizeTrk"** (→p.74) after recording or editing multiple tracks simultaneously in a 48 kHz/24-bit song.*

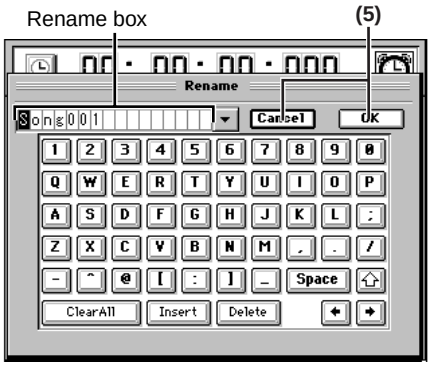
1-2. Renaming a song

When a new song is created, it is automatically assigned a song number. We recommend that you change the song name to indicate its content.
Song names can be up to 16 characters in length.

(1) Press the SONG key and select the song page.

(2) If you want to rename the song that's displayed in the song page, simply continue to the next step. If you want to choose a different song name, click the list button ( ) and select a song (→"Selecting a song from the song list").

(3) Click the Rename button to display the Rename dialog box.



(4) Click the buttons in the screen to edit the song name in the Rename box.

Space : Enters a space.

ClearAll : Erases the entire name.

: Switches between upper and lower case characters.

Insert : Inserts a space, and moves the subsequent characters to the right.

Delete : Deletes the character at the cursor location.

: Move the cursor to the location of the character you want to change.

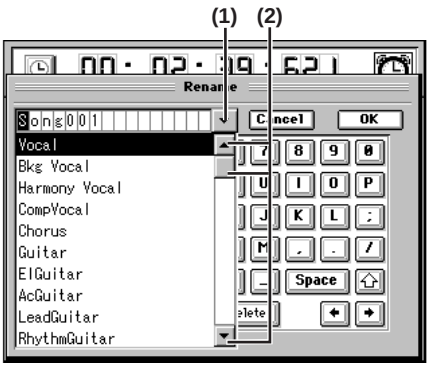
: Displays the name template (name library list).

(5) Finalize your changes.
If you want to change to the name you entered, click the **OK** button (or press the panel **YES** key). If you decide to discard the name you entered, click the **Cancel** button (or press the panel **NO** key).

Using the name library

(1) When the Rename dialog box is displayed, click the list button ( ) beside the rename box.

(2) Click (highlight) the name you want to use.
To choose a name that is outside the currently-displayed area, use the scroll bar / buttons to scroll through the list.



(3) Edit the song name as desired.
Refer to "1-2. Renaming a song," steps (4) and (5).

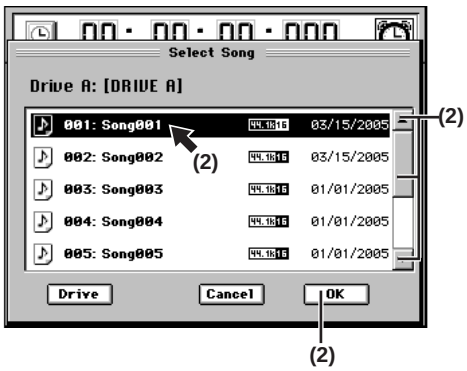
note *This same library is used for naming tracks, songs, scenes, marks, etc. Scroll down to see more appropriate song names.*

1-3. Selecting a song

There are two ways to select an existing song.

Selecting a song from the song list

(1) Press the SONG key, and then click the list button in the song page to open the SelectSong dialog box.



(2) Click (highlight) the song you want to select, and click the OK button (or press the panel YES key) to confirm your choice.
If there are more than five songs, use the scroll bar / buttons to scroll through the list.

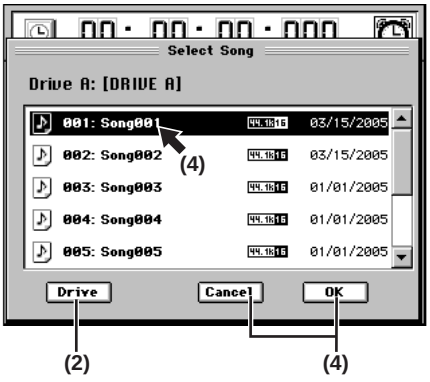
(3) Verify that the song you selected is displayed as the song page.

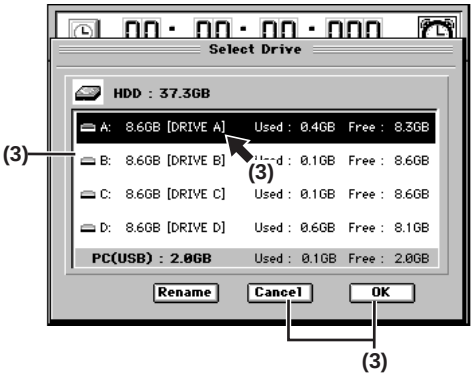
note *If you select the same song as the currently-displayed song (the current song), the **Reload Song** dialog box will appear; click the **Yes** button (or press the panel **YES** key) to reload the song.*

Selecting a song from another song drive

(1) Press the SONG key, and then click the list button in the song page to open the SelectSong dialog box.

(2) Click the Drive button to display the Select Drive dialog box.




Select Drive
HDD : 37.3GB
A: 8.6GB [DRIVE A] Used : 0.4GB Free : 8.3GB
B: 8.6GB [DRIVE B] Used : 0.1GB Free : 8.6GB
C: 8.6GB [DRIVE C] Used : 0.1GB Free : 8.6GB
D: 8.6GB [DRIVE D] Used : 0.6GB Free : 8.1GB
PC(USB) : 2.0GB Used : 0.1GB Free : 2.0GB
(3)
(3)
Rename
Cancel
OK
(3)

(3) Select (highlight) the drive that contains the song you want to select, and click the OK button (or press the panel YES key).
If you decide not to change drives, click the **Cancel** button (or press the panel **NO** key).

(4) The SelectSong dialog box will display the song list for the selected drive.
Click (highlight) the song you want to select, and click the **OK** button (or press the panel **YES** key) to confirm your choice. If there are five or more songs, use the scroll bar / buttons to see them all.

(5) Verify that the song you selected is displayed as the current song.

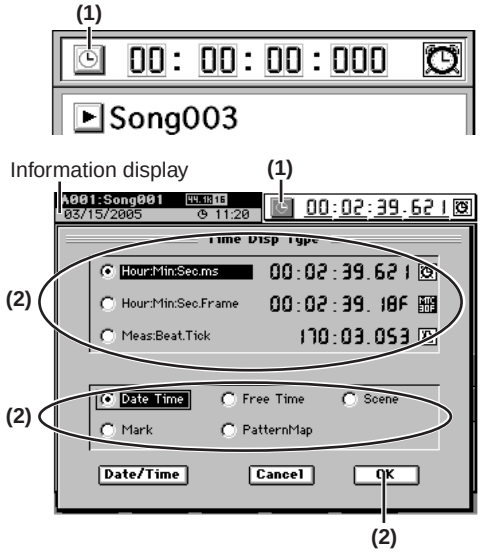
2. Location

The term "location" refers to a specific point in time within the selected song, as displayed in the counter.
The counter shows the current location within the song. The counter can be set to display the location in different formats. You can also use the counter to move to a different location.

2-1. Switching the counter display

You can switch the units that the counter uses to display the current location.

(1) Click the button to the left of the counter to open the Time Disp Type dialog box.



(2) Select the type of units you want the counter to use, and click the OK button (or press the panel YES key).
You can choose one of the following three formats (→p.98 "Counter").

Time display

- __:__:__.___ "hours" : "minutes" : "seconds" . "milliseconds"

Frame display

- __:__:__:__F "hours" : "minutes" : "seconds" . "frames"

Measure display

- ___.__.___ "measures" . "beats" . "ticks"

Switching the information display area

The first line of the information display area shows the currently selected song. The second line can be switched to show either the calendar, remaining time, scene settings, mark settings, or pattern map.

(1) Click the button at the left of the counter to display the Time Disp Type dialog box.

(2) Click one of the following five radio buttons, and then click the OK button (or press the panel YES key).

- **Date Time:** calendar (date and time)
- **Free Time:** remaining time for recording
- **Scene**: name and location of the scene for the current location in the song
- **Mark:** name of the mark for the current location in the song. If there is no mark at the current location, this displays the preceding mark and its location.
- **PatternMap**: the rhythm pattern at the current location of the song

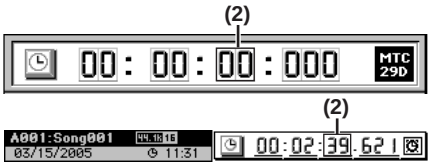
*If the calendar has not been set, **Date Time** will be gray.*

2-2. Moving to a different location

Using the counter to move

(1) Select a page in which the counter is shown at the top of the display, such as the song page, Meter page, CH VIEW, or "Ch View" tab page.

(2) Click the location counter unit that you want to change (it will be enclosed by a frame).



(3) Turn the value dial (or use the +/– keys) to move to the new location.

Using the FF and REW keys to move

Moving to a point later in the song (fast-forward)

Press the **FF** key.
If you hold down the **FF** key during playback, you will move toward the end of the song. Playback will resume when you release the key.
If you hold down the **FF** key while stopped, you will begin moving toward the end of the song and will continue moving until you press another transport key (such as **STOP** or **PLAY**).

*If you press the **FF** key during loop playback, loop playback will stop, and then the location will begin moving toward the end of the song.*

Moving to a point earlier in the song (rewind)

Press the **REW** key.
If you hold down the **REW** key during playback, you will move toward the beginning of the song. Playback will resume when you release the key.
If you hold down the **REW** key while stopped, you will begin moving toward the beginning of the song and will continue moving until you press another transport key (such as **STOP** or **PLAY**).

*If you press the **REW** key during loop playback, loop playback will stop, and then the location will begin moving toward the beginning of the song.*

Moving to the beginning / end of the song

Moving to the beginning of the song

Hold down the **STOP** key and press the **REW** key to move to the beginning of the song.

Moving to the end of the song

Hold down the **STOP** key and press the **FF** key to move to the end of the song.

Using the Locate keys to move

You can register a specific location for each of the Locate keys, and move immediately to those locations by pressing the appropriate key.
You can register up to four locations in each song.
Use the one of the **LOC 1/IN**, **LOC 2/OUT**, **LOC 3/TO**, or **LOC 4/END** keys to register the locations.

note *In addition to recalling the registered locations, these keys are also used to specify locations for auto-punch recording (IN/OUT locations) and track editing (editing range). For details on the function of each locate key, refer to "19. LOC 1/IN, … LOC 4/END" (→p.147).*

Assigning locations to the Locate keys

(1) Move to the location that you want to register (store).
Use the counter or the **FF/REW** keys to move to the desired location.

(2) Press the STORE key; the StoredTime dialog box will appear, allowing you to register the location.
If you decide to cancel, click the **Exit** button or press the **STORE** key once again.

(3) Press one of the LOC 1/IN, LOC 2/OUT, LOC 3/TO, or LOC 4/END keys to register this location to that key. The registration will be completed, and the dialog box will close.

You can register a Locate key to a location during playback or recording simply by performing step (2).

If you want to set a location precisely while viewing the waveform, refer to "2-3. Finding a precise location (SCRUB)" (→p.40).

Moving to a location registered to a Locate key

While stopped or playing, press one of the **LOC 1/IN**, **LOC 2/OUT**, **LOC 3/TO**, or **LOC 4/END** keys. You will move to the registered location.

Moving using assignable Marks

You can register Marks at specific locations and use them to move to the registered locations.
You can name each mark, to indicate locations within the song.
Up to one hundred marks can be registered per song.

note *In addition to their use for finding a registered location, the Marks are also used to divide tracks when you create an audio CD (→p.80 "2. Disc At Once").*

Registering a mark

(1) Move to the location that you want to register.
Use the counter or **FF/REW** keys to move.

(2) Press the STORE key, and the StoredTime dialog box will appear.
If you decide not to register the location, click the **Exit** button or press the **STORE** key once again.

(3) Press the MARK key to register the location as a mark. The dialog box will close.

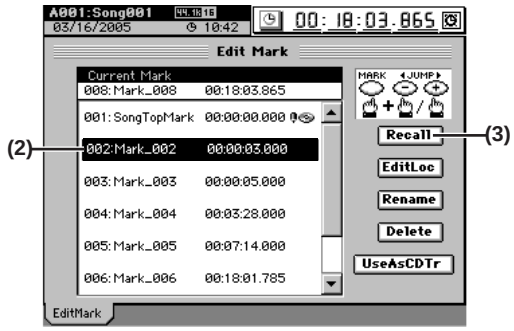
note *Mark numbers are automatically re-assigned in numerical order starting at the beginning of the song.*

(4) Verify that the mark was registered.
Press the **MARK** key and select the **"EditMark"** tab page, and verify that your new mark was registered.

During playback or recording, perform steps (2) – (4) to register a location as a Mark.

Moving to the location assigned to a mark

(1) Press the MARK key to display the "EditMark" tab page.

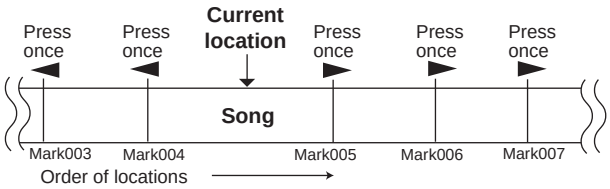


(2) In the mark list, click (highlight) the desired mark.
If necessary, use the scroll bar / buttons to scroll through the list.

(3) Click the Recall button to recall the mark.
"Current Mark" will show the selected mark, and you will move to the location of that mark.

Using the MARK keys to move

Hold down the **MARK** key and press the **+** key to step through the marks toward the end of the song.
Hold down the **MARK** key and press the **–** key to step through the marks toward the beginning of the song.



Deleting a mark

You cannot Undo the result of deleting a mark.

(1) Press the MARK key to display the "EditMark" tab page.

(2) From the mark list, click the mark that you want to delete.
If necessary, use the scroll bar / buttons to scroll through the list.

(3) Click the Delete button to display the Delete Mark dialog box.

(4) If you are sure you want to delete the mark, click the Yes button (or press the panel YES key).
If you decide not to delete the mark, click the **No** button (or press the panel **NO** key).
If you want to delete all marks, click the **Select All** button to turn it on (highlighted), and then click the **Yes** button (or press the panel **YES** key) to delete all marks.

(5) Verify that the mark has been deleted from the mark list.

Renaming a mark

(1) Press the MARK key to display the "EditMark" tab page.

(2) From the mark list, click the mark that you want to rename.
If necessary, use the scroll bar / buttons to scroll through the list.

(3) Click the Rename button to display the Rename dialog box.
For details on how to edit the name, refer to "1-2. Renaming a song" (→p.36).

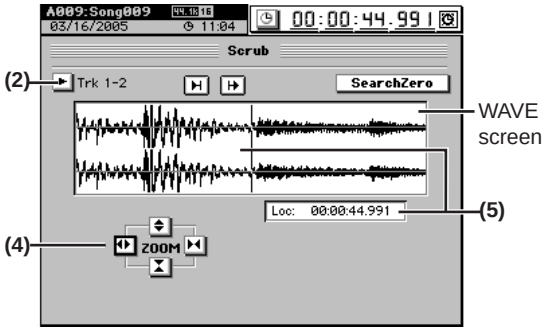
2-3. Finding a precise location (SCRUB)

By looking at the waveform data in the display, you can find a precise location. This allows you to register a locate point or a mark at the exact point where a sound begins.

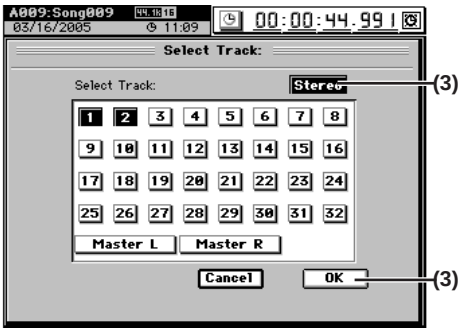
note *You can view the waveform as described here in the Scrub screen, and in the Wave screen used for track editing (→p.128).*

By watching the waveform as you listen to the audio, you can find the desired location of the song.
If you press the **SCRUB** key at a location that occurs after the end of the song, a dialog box will open that says "Scrub location exceeded song end." Click **OK** or press the panel **YES** key, and the location will be set to the end of the song.

(1) Press the SCRUB key to display the Scrub page.



(2) Click the popup button beside "Trk" to display the Select Track dialog box.



(3) Select the track that you want to play back, and click the OK button (or press the panel YES key).
If you click the **Stereo** button (highlight), you can view the waveforms of two adjacent channels in the upper and lower parts of the window while you play back.

(4) Click the ZOOM buttons to adjust the size and range of the displayed waveform.
Instead of using the **ZOOM** buttons, you can hold down the **JUMP/MATCH** key and press the **cursor keys**.

(5) Turn the value dial to find the location while you listen to the sound.
The track audio will play back according to the direction and speed at which you turn the value dial.
The **Loc** cell and the vertical bar indicate the location of the audio you are hearing.

note *When you reach the desired location, press the **STORE** key and register the location in a **LOC** key or a mark.*

Click the ⏭ button to play back approximately two seconds of audio ending at the current location, or click the ⏩ button to play back approximately two seconds of audio starting at the current location.

(6) Press the SCRUB key once again, and you will return to the screen in which you were before entering the Scrub screen.
Alternatively, you can exit the Scrub screen by pressing a mode key or a direct key to move to another page.

Finding a zero-cross point

If you click the **SearchZero** button to turn it on, you can turn the value dial to move between locations at which the waveform level crosses the ±0 point.
Turn the dial toward the right to move to the next zero-cross point.
Turn the dial toward the left to move to the previous zero-cross point.

note *When using loop playback, or when setting IN, OUT, TO, and END points for a track editing operation, setting the location at a zero-cross point will ensure a smoother transition.*

*You cannot hear the audio while the **Search Zero** button is on.*

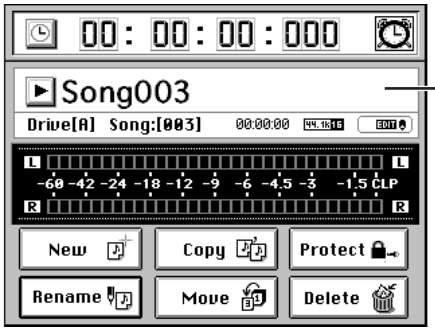
3. Song editing

Songs you record can be copied, rearranged, or deleted. You can also protect a song to keep it from being accidentally deleted.

You cannot use Undo to undo a song editing operation.

3-1. Song editing procedure

To perform a song editing operation, first select the song that you want to edit, and then press the **SONG** key and select the song page.
Verify that the selected song is shown as the current song in the tab page. Then click a button to perform the desired editing operation.



Copying a song

You can copy a song to the desired song number.
This is convenient when you want to create a different remix or arrangement of the same song.

(1) Select the song that you want to copy. (→p.36)

(2) Press the SONG key, and then click the Copy button in the song page to access the CopySong dialog box.
If you want to copy the song to another song drive, click the **Drive** button and use the **Select Drive** dialog box to select the drive (→p.36).

(3) Turn the value dial to select the copy-destination song number.

(4) To copy the song, click the Yes button (or press the panel YES key).
If you decide to cancel, click the **No** button (or press the panel **NO** key) to close the dialog box.

(5) When the display indicates "Completed," click the OK button (or press the panel YES key).
The dialog box will close, and you will return to the song page.

note *If there is already a song at the copy-destination number, the song existing at the copy-destination and subsequent song numbers will be renumbered one number higher (→p.117 "8. SONG").*

The Undo information within the song will not be copied.

Moving a song

You can move a song to the specified song number.

(1) Select the song that you want to move. (→p.36)

(2) Press the SONG key, and then click the Move button in the song page to access the MoveSong dialog box.
If you want to move the song to a different drive, click the **Drive** button and use the **Select Drive** dialog box to select the drive (→p.36).

If you move the song to a different song drive, the Undo information will not be retained.

(3) Turn the value dial to select the move-destination song number.

(4) To move the song, click the Yes button (or press the panel YES key).
If you decide to cancel, click the **No** button (or press the panel **NO** key) to close the dialog box.

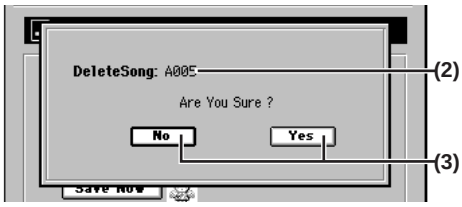
(5) When the display indicates "Completed," click the OK button (or press the panel YES key).
The dialog box will close, and you will return to the song page.

Deleting a song

You can delete a song.

(1) Select the song that you want to delete. (→p.36)

(2) Press the SONG key, and then click the Delete button in the song page to access the DeleteSong dialog box.
Verify the drive name and song number of the song that you want to delete.



(3) To delete the song, click the Yes button (or press the panel YES key).
If you decide to cancel, click the **No** button (or press the panel **NO** key) to close the dialog box.

(4) When the display indicates "Completed," click the OK button (or press the panel YES key).
The dialog box will close, and you will return to the song page.

Protecting a song

You can protect a song so that it will not be accidentally overwritten or deleted.
If the song is protected (protect On), you won't be able to switch to Record by pressing the key located above the master fader or the **channel keys** when the **REC/PLAY** key is on. Nor will you be able to rewrite any of the parameters of that song.
When you protect a song, it will be saved automatically at that time.

Protect On

(1) Select the song that you want to protect (→p.36).

(2) Press the SONG key, and then click the Protect button in the song page to access the ProtectSong dialog box.
Verify the drive name and song number of the song that you want to protect.

(3) Click the ON button (or press the panel YES key).

(4) When the display indicates "Completed," click the OK button (or press the panel YES key).
The dialog box will close, and you will return to the song page.

(5) Notice that a lock symbol "🔒" is displayed for the current song, indicating the song is protected.

Protect Off

(1) Select the song that you want to un-protect. (→p.36)
Protected songs are indicated by a lock symbol "🔒".

(2) Press the SONG key, and then click the Protect button in the song page to access the ProtectSong dialog box.
Verify the drive name and song number of the song that you want to un-protect.

(3) Click the OFF button (or press the panel NO key).

(4) When the display indicates "Completed," click the OK button (or press the panel YES key).
The dialog box will close, and you will return to the song page.

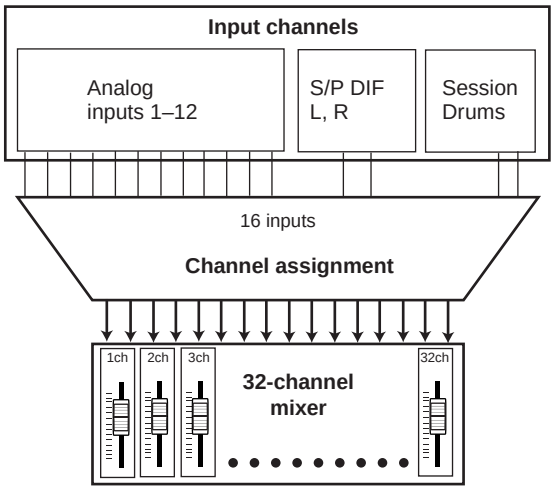
(5) Verify that the lock symbol "🔒" is no longer displayed for the current song.

Saving a song

Since the D3200 automatically saves song data and parameters when you perform the shut-down operation or when you select a song, it is not absolutely necessary for you to save manually.
However if the power should be interrupted by a power failure or other accident, the data that has been recorded or edited since the most recent power-on (or since a song was last selected) will be lost.
We recommend that you use this command to save the data periodically after recording or editing for an extended period, or if you are using the D3200 in an environment where the power supply is unreliable.

- **To save the song, hold down the SONG key and press the ENTER key located in the edit controller section of the panel.**

Mixer



1. Inputting audio to the mixer

The D3200 provides twelve channels of analog input and one optical digital input jack.
The audio signals coming from devices connected to these jacks can be assigned to the mixer channels and recorded. Audio from the internal drum pattern can also be assigned to the mixer channels.

Here's how to assign each input to a mixer channel and check the audio signal.

1-1. Analog input

You can connect audio sources such as guitars, keyboards, or mics to the analog input jacks.

Inputting audio from a guitar

i.e. Connecting a guitar to the GUITAR IN jack and assigning it to mixer channel 1.

(1) Connect the guitar.
Lower the **MASTER** fader, and then connect the guitar to the **GUITAR IN** jack.

(2) Select INPUT 1 as the audio source.

- Access the **MIXER**, **CH INPUT/SubMixer**, **"Ch Assign"** tab page.
- Click the ▼ / ▲ buttons to set the CH1 **"SOURCE"** to **"1"**. You can also use the **value dial** or the **+/–** keys to make your selection.

note *The **GUITAR IN** jack is shared with the **INPUT 1** jack. Specify its input channel and adjust its input level as **INPUT 1**.*

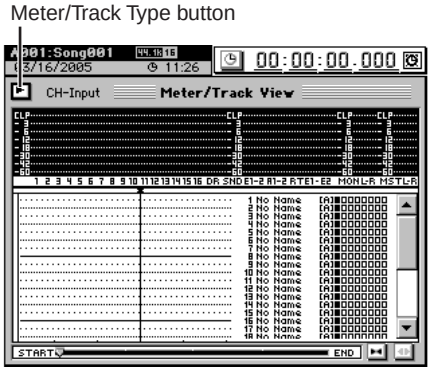
(3) Assign the input to mixer channel 1.

- Turn the **CH ON** key on, and turn the channel 1 **channel key** on (key lit).
- Turn the **REC/PLAY** key on, and set the channel 1 **channel key** to Record (key lit red). At this time, CH 1 will be highlighted in the screen to indicate that it is record-enabled.

(4) Adjust the input level.

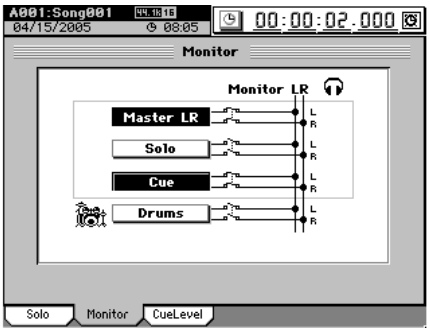
- Press the **METER** key to display the **Meter/Track View** screen.
- Click the **Meter/Track Type** button to display the **Meter/Track Type** dialog box.
- For **"Select Level Meter Position,"** select **"CH-Input"** as the level meter mode. Then click the **OK** button (or press the panel **YES** key) to return to the previous screen.
- Turn the **INPUT 1 TRIM** knob toward the right while playing your guitar ; the peak indicator (the LED near the **TRIM** knob) will light. Adjust the **TRIM** knob so that the indicator does not light red when you play at your loudest level.
- If the input is too loud, turn on the **PAD** key.
- The level meter in the **Meter/Track View** screen will move in response to the input. Verify that the level meter does not reach **"CLP"** when you play at your loudest level.

note *When adjusting the input level, you may find it helpful to set a longer **"Peak Hold Time"** in the **Meter/Track Type** dialog box.*



(5) Check the audio.

- Set the channel 1 fader to unity gain (0 dB).
- Access the **MIXER**, **SOLO/MONITOR**, **"Monitor"** tab page.
- Click the **"Master LR"** and turn it on (highlighted).
- Gradually raise the **MASTER** fader and the **PHONES LEVEL** knob or the **MONITOR LEVEL** knob, and verify that you hear the sound in your headphones or in the monitor system connected to the **MONITOR** jacks.



Using the tuner

The D3200 contains a built-in tuner function.
You can use this to tune an instrument connected to **INPUT 1** or the **GUITAR IN** jack.
You can choose to view either a needle-type or a digital-type tuner screen.

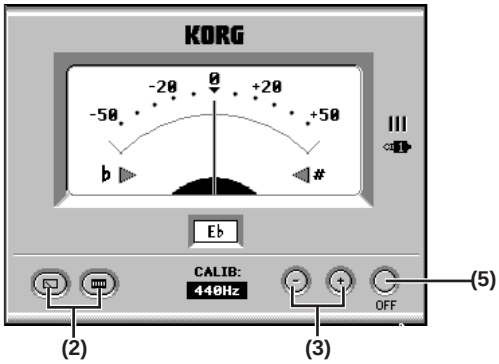
(1) Press the panel TUNER key to access the tuner screen.

(2) Click the needle-type or digital-type button to select the desired type of display.

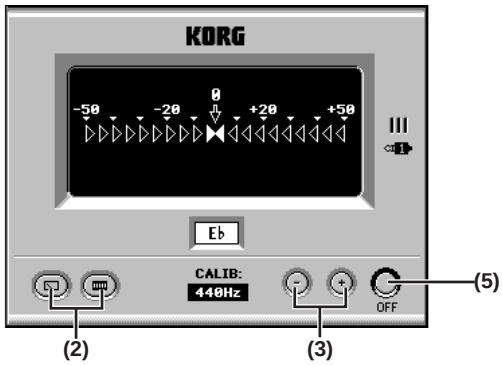
(3) Click the CALIB button (or use the panel +/– keys) to specify the desired tuning reference pitch.
Normally you will use "440 Hz."

(4) Input the sound from your instrument, and tune it.
The note name closest to the pitch you input will be displayed.

When using the analog (needle-type) screen
If the pitch is correct, the needle will indicate the center 0 position, and the flat "▷" and sharp "◁" indicators will both light. If the pitch is flat, only the "▷" indicator will light. If the pitch is sharp, only the "◁" indicator will light.



When using the digital-type screen
If the pitch is correct, the center 0 (⇩) as well as both "▷" and "◁" indicators will light. If the pitch is flat, only the "▷" indicator will light. If the pitch is sharp, only the "◁" indicator will light.



The pitch deviation is indicated in units of cents. (100 cents = one semitone, and 1200 cents = one octave)

(5) Click the OFF button to return to the previous screen.
Alternatively, you can use the panel **TUNER** key to return to the previous screen.

1-2. Digital input

The D3200 lets you input and record digital sources from the S/P DIF inputs.

You can input a digital source only if its sampling frequency matches the sampling frequency of the currently selected song.

If you input a 24-bit signal into a 16-bit song, the sound you monitor will be 24-bit, but it will be converted to 16-bit data when it is recorded.

When making digital input settings for S/P DIF, you may hear noise due to synchronization difficulties. Please turn down the faders or turn down the volume of your monitor speakers before you adjust these settings.

Inputting the digital audio signal from a MD or DAT

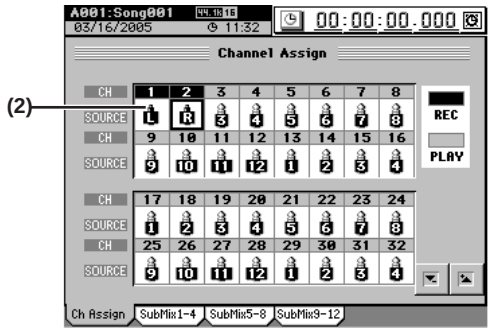
i.e. Connecting the digital output of your external MD player to the S/P DIF IN jack, and assigning it to channels 1 and 2.

(1) Connect your MD player.

Lower the D3200's **MASTER** fader, and use an optical digital cable to connect the digital output of your MD player to the **S/P DIF IN** jack.

(2) Specify the S/P DIF inputs as the digital audio source.

- Access the **MIXER**, **CH INPUT/SubMixer**, **"Ch Assign"** tab page.



- Click the channel 1 **"SOURCE,"** and click the ▼ / ▲ buttons to select **"L"** (L). You can also use the **value dial** or the **+/–** keys to make your selection.
  In the same way, set channel 2 to **"R"** (R).

(3) Assign the input audio to mixer channels 1 and 2.

- Turn the **CH ON** key on, and turn the channel 1 and 2 **channel keys** on (key lit).
- Turn the **REC/PLAY** key on, and set the channel 1 and 2 **channel keys** to Record (key lit red). At this time, CH 1 will be highlighted in the screen to indicate that it is record-enabled.

(4) Adjust the input level settings.

- Press the **METER** key to display the **Meter/Track View** screen.
- Click the **Meter/Track Type** button to display the **Meter/Track Type** dialog box.
- In **"Select Level Meter Position,"** select **"CH-Input"** as the level meter mode, and click the **OK** button (or press the panel **YES** key) to return to the previous screen.
- When you play back your MD player, the CH 1 and 2 level meters will move in response to the input.

(5) Check the audio.

- Set the channel 1 and 2 faders to unity gain (0 dB).
- Access the **MIXER**, **SOLO/MONITOR**, **"Monitor"** tab page.
- Select **"Master LR,"** and turn it on (highlighted).
- Gradually raise the **MASTER** fader and **PHONES LEVEL** knob or **MONITOR LEVEL** knob, and verify that you hear the sound from your headphones or your monitor system connected to the **MONITOR OUT** jacks.

1-3. Sub input

The audio sources from the INPUT 1–12 jacks can be sent to the sub-mixer and output directly to the master bus, independently of being input to the mixer.

note *Sub Mixer 1–12 corresponds to INPUT 1–12 jacks respectively.*

Here are some ways in which you can use this:

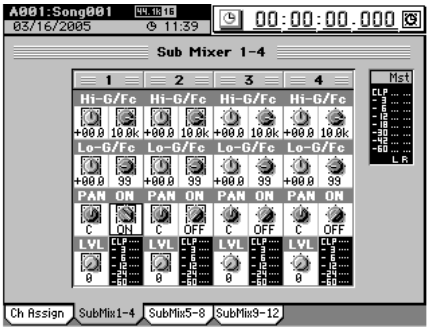
- You can add external input sources to the recorded sounds that are playing back.
- You can apply external effects to the audio signal sent from the **AUX** jacks, and send the processed signal via the sub-mixer to the master bus.

i.e. Inputting audio to the INPUT 1 jack, assigning it to sub-mixer 1, and outputting the audio.

(1) Connect an audio signal to the INPUT 1 jack.

(2) Adjust the sub-mixer settings.

- Access the **MIXER**, **CH INPUT/SubMixer**, **"SubMix1–4"** tab page.
- Since you are inputting audio to the **INPUT 1** jack, use the Sub Mixer 1 **ON** knob (Knob Matrix 10) to turn on.



(3) Check the input to the sub-mixer.

- In the same way as for normal mixer settings, use the Knob Matrix to adjust the **level**, **pan**, and **EQ**.
- Verify that you hear the input source through your headphones or monitor system.

2. Audio outputs from the mixer

MASTER L, R

These outputs provide the audio signals from the master bus. Use the **MASTER** fader to adjust the volume of the **MASTER L/R** jacks and the level of the signal being recorded on the master track.

MONITOR L, R

Refer to "3-7. Monitor settings" (→p.47).

AUX 1, 2

Refer to "2e-3. Aux1 Send" (→p.109).

S/P DIF OUT

This jack sends a digital audio version of the same audio signal as the MASTER L/R jacks, at the same sampling frequency and bit depth as the current song.

3. Mixer settings

Adjust the overall sound of your song by using the mixer section to set the volume, tone, and pan settings for input or playback.

note *For details on effect settings, refer to "Effects" (→p.54).*

3-1. Adjusting the volume

Adjusting the volume level of each channel

Use the **channel faders** to adjust the input or playback volume. Raise or lower the fader to adjust the volume.

- You can store these settings in a scene (→p.50).
- You can record these adjustments as automation (→p.52).

note *The **channel faders** have a range from silence (–∞) through unity gain (0 dB) and up to +6 dB of gain.*

Inputting a source at the maximum level

Ideally, an audio source you want to record should be input at the highest possible volume that does not cause clipping. To record at the ideal maximum level on the D3200, make adjustments according to the signal flow described below.

1. Analog input jack (INPUT 1–12) TRIM

This is the first adjustment that affects the level of the input source.

- **Channels to which an insert effect is not applied**
  Refer to 1-1. Analog input, step (4) (→p.43).
- **Channels to which an insert effect is applied**
  - Access the **EFFECT**, **"InsertEFF"** tab page, and select the effect for the channel you are adjusting.
  - Set **"Trim"** to **"100."**
  - Adjust the **TRIM** knob so that the **"FX IN"** level meter does not reach **"CLP"** when the audio signal is input.

For details, refer to "4-2. Insert EFF" (→p.114).

note *Since the signals from the **S/P DIF** jacks are input at unity gain (0 dB), you **do not need** to adjust the **TRIM**.*

2. Insert effect TRIM

In some cases, applying effects to the input signal you adjusted in step **1** may increase the volume, causing distortion. In this case, make the following adjustment.

- Access the **EFFECT**, **"InsertEFF"** tab page, and click the **InsEffect** edit cell to select the effect whose level you want to adjust.
- Adjust **"Trim"** so that the **"FX OUT"** level meter does not reach **"CLP"** when the audio signal is input.

For details, refer to "4-2. Insert EFF" (→p.114).

3. Attenuator

Finally, applying EQ may increase the volume level, causing the sound to distort. In this case, make the following adjustment.

- Access the **MIXER**, **EQ/ATT/PHASE**, **"EQ/ATT"** tab page, press the **CH SELECT** key, and use the **channel keys** to select the input channel you're using.
- Press the **REC/PLAY** key, and use the **channel keys** to select Record mode for the channel you're using.
- Adjust **"ATT"** so that the **"PRE"** level meter does not reach **"CLP"** when the audio signal is input.

For details, refer to "2d-1. EQ / ATT" (→p.107).

Adjusting the overall volume level

Use the **MASTER** fader to adjust the volume of the **MASTER** jacks and the level of the signal being recorded on the master track.

Use the **MONITOR LEVEL** knob to adjust the volume of the **MONITOR OUT** jacks.

Use the **MONITOR LEVEL** knob or **PHONES LEVEL** knobs to adjust the volume of the headphone jacks.

3-2. Adjusting the pan

Press the **PAN** key to access the **"Fader Pan"** tab page, and use the Knob Matrix to adjust the pan of each channel.

- You can store these settings in a scene (→p.50).
- You can record these adjustments as automation (→p.52).
- If channels are paired, you can select how the **PAN** knob will operate. (→p.102)

3-3. EQ (Equalizer)

The EQ can be used to cut unwanted frequency regions such as hiss, or to shape the tonal character by boosting or cutting a specific low- or high-frequency region.
The D3200 provides channel EQ for adjusting the tone of each channel, and master EQ for adjusting the tone of the master bus.

Channel EQ

You can use four-channel full-parametric EQ to adjust the tone of each channel.

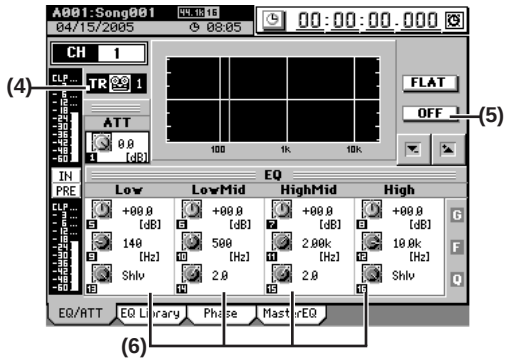
Channels 25–32 have a two-band shelving EQ.

Adjust the channel EQ in the **MIXER**, **EQ/ATT/PHASE**, **"EQ/ATT"** tab page, or in the **CH VIEW**, **"Ch View"** tab page.

note *You can press the **EQ** key to access the **"EQ/ATT"** tab page with one touch.*

Applying EQ to an audio input

You can apply EQ to an audio input, and record the EQ'ed sound.



(1) Input an audio signal. (→p.42 "1. Inputting audio to the mixer")

(2) Press the EQ key, access the "EQ/ATT" tab page.

(3) Press the REC/PLAY key, and then press the channel key for the channel where the EQ will be applied, to select Record mode (key lit red).

(4) Press the CH SELECT key and use the channel keys to select the channel where the EQ will be applied, and make sure the TRACK/INPUT indicator is set to "IN."

(5) Click the ON/OFF button to turn on the EQ.
If this is off, the EQ will not be applied.

(6) Use the Knob Matrix to adjust the EQ settings (→p.107 "2d-1. EQ/ATT").

note *If the level meter indicates clipping, click the **ATT** knob icon and adjust it so that clipping does not occur.*

Applying EQ to the playback

(1) Press the REC/PLAY key, and press the channel key of the channel where you want the EQ applied, setting that channel to Play mode (key lit green).

(2) Press the EQ key, access the "EQ/ATT" tab page.

(3) Play back the song. (→p.68 "2-1. Normal playback")

(4) Press the CH SELECT key, use the channel keys to select the channel to where you want the EQ applied, and make sure the TRACK/INPUT indicator is set to "TR."

(5) Click the ON/OFF button to turn on the EQ.
If this is off, the EQ will not be applied.

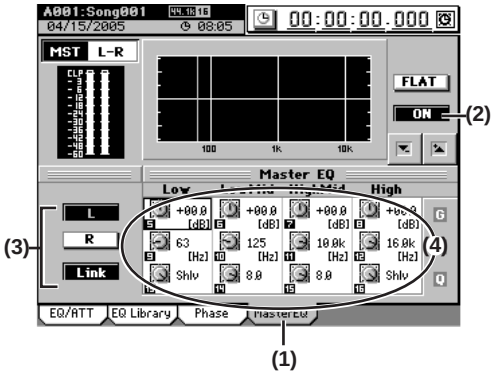
(6) Use the Knob Matrix to adjust the EQ settings (→p.107 "2d-1. EQ/ATT").

note *If the level meter indicates clipping, click the **ATT** knob icon and adjust it so that clipping does not occur.*

Master EQ

You can use an four-band full-parametric equalizer to adjust the tone of the master bus.

(1) Access the EQ, "MasterEQ" tab page.



(2) Click the ON/OFF button to turn on the master EQ.
If this is off, the master EQ will not be applied.

(3) Select the channel whose EQ you want to adjust.
Click the **L** button if you want to adjust the tone of the left channel, or click the **R** button to adjust the tone of the right channel.

note *If you click the **Link** button, adjusting the EQ settings of one channel will automatically set the other channel to the same values.*

(4) Use the Knob Matrix to adjust the EQ settings (→p.108 "2d-4. Master EQ")

3-4. EQ library (Storing and recalling EQ settings)

You can store channel EQ settings in the EQ library and recall them as desired.
A total of one hundred EQ settings are available; 50 presets and 50 user-writable settings.

Storing EQ settings

(1) Adjust the EQ settings as desired.
Refer to "Channel EQ" on the previous page.

(2) Access the "EQ Library" tab page, and click the Store button.
The EQ settings that will be stored are the EQ settings of the channel whose **CH SELECT** key is on (key lit).
A name will automatically be assigned to the stored EQ settings; e.g., **CH08-I·EQ** (channel 8 Input EQ) or **CH10-EQ** (channel 10 Track EQ).

(3) If you want to rename the settings, click the Rename button to display the Rename dialog box.
For the renaming procedure, refer to "1-2. Renaming a song" (→p.36).

(4) In the library number cell, select the desired save-destination.
Then click the **Yes** button (or press the panel **YES** key) to save the EQ settings.
If you decide not to save, click the **No** button (or press the panel **NO** key).

Recalling EQ settings

(1) Access the "EQ Library" tab page, and click (highlight) the EQ settings that you want to use.

(2) Press the CH SELECT key, and press the channel key of the channel where you want to apply the EQ settings.

(3) Click the Recall button to recall the EQ settings.
Verify the recall-destination channel in the **Recall** dialog box, and click the **Yes** button (or press the panel **YES** key). If you decide not to recall, click the **No** button (or press the panel **NO** key).

(4) Return to the "EQ/ATT" tab page, check the EQ settings that were recalled, and make adjustments as necessary.

Since channels 25–32 have a two-band EQ with Low and High, loading four-band EQ library settings into these channels will have the following result.

- *LowMid and HighMid settings will be ignored.*
- *The Gain and Fc settings for the Low and High bands will be used as they are, but the Q will be forcibly changed to Shelving.*

3-5. Pairing

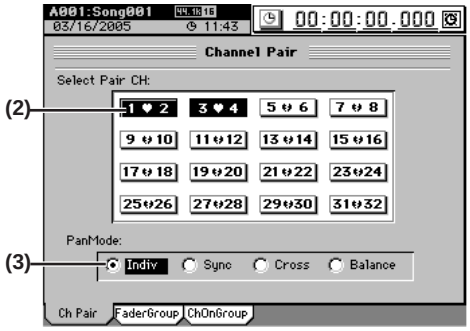
By specifying adjacent odd-numbered and even-numbered channels (1–2, 3–4, 5–6…31–32) as a pair, you can adjust the values of both channels simultaneously by editing the value of the one of paired channels.
This is convenient when you want to adjust the mixer settings for a stereo source or track.
The following settings can be paired.

- **Channel keys** when the **CH ON** key is on
- **Channel keys** when the **REC/PLAY** key is on
- **EQ/ATT**
- **REC/EFF/AUX SEND**
- **Channel fader**
- PAN settings
- Group settings

note *You can select how the PAN will operate when channels are paired.*

(1) Access the MIXER, PAIR/GROUP , "Ch Pair" tab page.

(2) In Select Pair Ch, select the channels that you want to pair.
Click one of the **"1⇕2"–"31⇕32"** buttons to change the symbol to "♥".
If you want to disable pairing, click the paired button to change the symbol to "⇕".



(3) Click the Pan Mode radio buttons to select how the PAN knob will operate for paired channels (→p.102).

3-6. Group settings

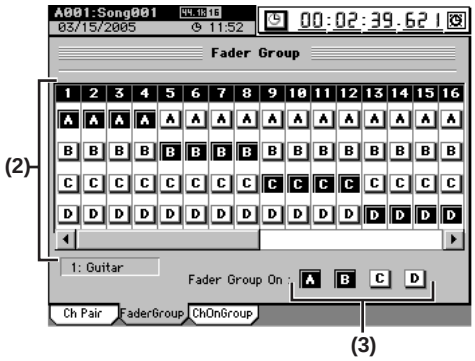
Multiple channels can be assigned to a "Group". Operating the fader of any channel assigned to that group will adjust the volume of all channels in the group while maintaining their relative volume balance.
In addition, each channel can also be assigned to a CH ON group. When the on / off status of any channel in that CH ON group is changed, the status of all other channels in that group will also change.

Fader groups

(1) Access the MIXER, PAIR/GROUP, "FaderGroup" tab page.

(2) Click the radio buttons to select a group (A–D) for each channel fader.

(3) Click the Fader Group On buttons A–D to enable the desired groups.
You may enable more than one group.

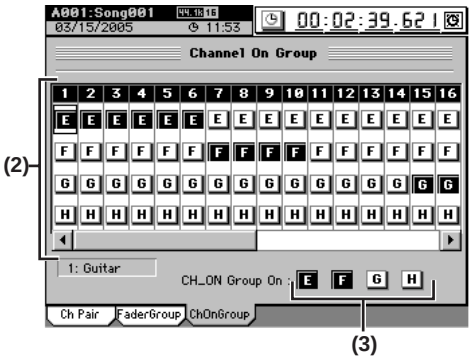


CH ON groups

(1) Access the MIXER, PAIR/GROUP, "ChOnGroup" tab page.

(2) Use the radio buttons to select a group (E–H) for each channel.

(3) Click the Ch On Group On buttons E–H to enable the desired groups.
You may enable more than one group.

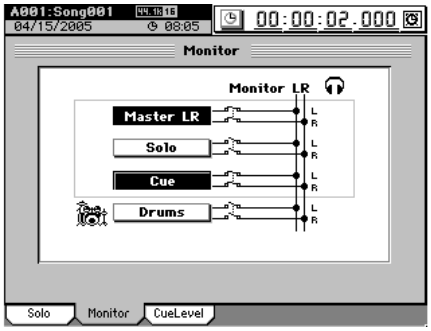


3-7. Monitor settings

Here's how to select the audio signal that will be output from **MONITOR** and **PHONES**.

(1) Connect your monitor system.
You can either connect amplified speakers or a similar system to the **MONITOR L/R** jacks, or connect headphones to the **PHONES** jack.

(2) Select the monitor source.
Access the **MIXER**, **SOLO/MONITOR**, **"Monitor"** tab page, and click the source that you want to monitor.



Master LR
Monitor the audio of the master bus.

Solo
Monitor the audio that is being soloed.
When you adjust the settings in the **"Solo"** tab page, the monitor source will be selected automatically.
If you want to defeat this, you can do so in the **"Solo"** tab page (→p.48 "3-9. Solo settings").

Cue
Monitor the volume and pan as set in the cue mix, independent of the **channel faders** and **PAN** knobs (→p.48 "3-8. Adjusting the cue level").

Drums
If this is on, the drum pattern sound will be output only from the monitor bus. In this case, the **SESSION DRUMS**, **"DrmsMixer"** tab page **Assign** setting will be set to **"Monitor."** This is convenient when you want to monitor only the rhythm, such as during a live performance.

note *You can also turn **"Drums"** on by setting the **SESSION DRUMS**, **"DrmsMixer"** tab page parameter **Assign** to **Monitor**.*

(3) Adjust the monitor volume.
The monitor volume is adjusted by the **MONITOR LEVEL** knob for the **MONITOR L/R** jacks, and by the **PHONES LEVEL** knob and **MONITOR LEVEL** for the **PHONES** jacks.

3-8. Adjusting the cue level

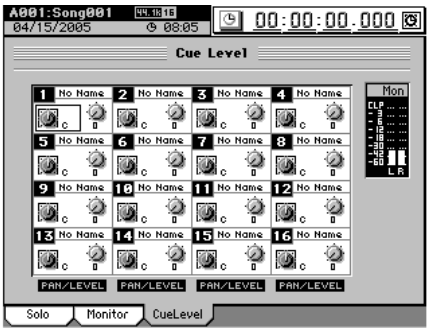
Cue Level is a function that lets you adjust the monitor volume and pan independently of the settings of the master bus. The cue signal is output from the **MONITOR L/R** jacks and the **PHONES** jacks.

(1) Select cue as the source for monitoring.
In the **MIXER**, **SOLO/MONITOR**, **"Monitor"** tab page, click the **"Cue"** and turn it on (highlighted).

note *If you have made **"Solo"** settings, defeat **"Solo"** before you select Cue.*

(2) Adjust the cue level.
Access the **MIXER**, **SOLO/MONITOR**, **"CueLevel"** tab page.
If you click the **"LEVEL"** knob icon, you can use the Knob Matrix to adjust the volume of each channel.
If you click the **"PAN"** knob icon, you can use the Knob Matrix to adjust the pan of each channel.

note *Alternatively, you can click a channel icon and use the ▼ / ▲ buttons, value dial, or +/– keys to adjust the volume level and pan.*



3-9. Solo settings

Use the Solo function when you want to listen to only a specific channel(s) without affecting the signal being recorded or sent to the MASTER L / R bus. You can also use the solo when you want to listen to one of the Send signals or to one of the Return signals from one of the internal master effects. The solo signal is output from the **MONITOR L/R** jacks and the **PHONES** jacks.

Soloing just one channel

(1) Access the MIXER, SOLO/MONITOR, "Solo" tab page.

(2) Use the Mode radio buttons to click "Last."

(3) Press the SOLO key to select SOLO mode.
The **channel keys** of all channels will blink.

(4) Press the channel key for the channel you want to solo.
The key of the selected channel will continue blinking, and the keys of the other channels will go dark.

(5) Listen to the soloed signal.

As an alternative to using the **channel key** to select solo, you can click a button in the **MIXER**, **SOLO/MONITOR**, **"Solo"** tab page. This method allows you to select a Send or Return signal for soloing, as well as the signal of a channel (→p.110).

Soloing more than one channel

(1) Access the MIXER, SOLO/MONITOR, "Solo" tab page.

(2) Use the Mode radio buttons to click "Mix."

(3) Use steps (3) and (4) in "Soloing just one channel" (above) to select the channels that you want to solo.

Cancelling solo

(1) Access the MIXER, SOLO/MONITOR, "Solo" tab page, and click off the button(s) that you selected for soloing.
If you want to clear all solo settings, click the **Clear All** button.

note *You can defeat Solo by pressing the **REC/PLAY**, **CH ON**, **SOLO**, or **CH SELECT** keys.*

(2) Verify the setting.
In the **"Monitor"** tab page, verify that **Solo** is now off.

Sending the soloed audio from the master bus

If you want to, you can send the soloed audio signal to the **MASTER L/R** jacks. Use this when you want to hear the soloed audio through the monitor system connected to the **MASTER L/R** jacks.

In the **MIXER**, **SOLO/MONITOR**, **"Solo"** tab page, click the **Solo→Master** button on (highlighted).

3-10. Muting a channel

You can turn the **CH ON** key on and use the **channel keys** to mute (silence) each channel.

(1) Turn on the CH ON key.
The **channel keys** of all channels will light.

(2) When you press the channel key of a channel, it will be muted (the key will be dark).

3-11. Mixer Setup

Mixer Setup lets you store the current mixer settings for subsequent recall at a later time.
This allows you to store mixer settings that you use frequently, and then recall them when creating a new song. You can also use this method to copy mixer settings to a different song.
The current mixer settings are stored as a "mixer setup program." You can store twenty of these mixer setup programs. A mixer setup program contains all the mixer parameters that are included in the song.

The mixer setup programs that you store can be backed-up and restored as **"User Data" "Mixer Setup Data"** (→p.83).

A mixer setup contains the following parameters.

- **Channel Assign**, and **Sub Mixer** assignments
- **Pair**, **Group**
- **Fader**, **Pan**, **Play/Rec EQ**
- **ATT**, **CH ON**, **Phase**, **AUX/EFF Send**, **Rec Send**
- Effect (all settings including the parameters being edited)
- Master Fader, **Master EQ**, **Send Out** level, Send **Select All**
- **Solo**, **Monitor**, **Cue**, **Session Drums**
- **Channel keys when the REC/PLAY key is on**
- **Master track record/play**

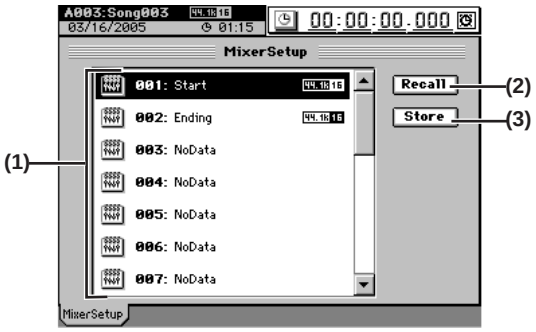
Storing a mixer setup

Here's how to store the current mixer settings as a mixer setup program.

You can't store a mixer setup while a song is playing.

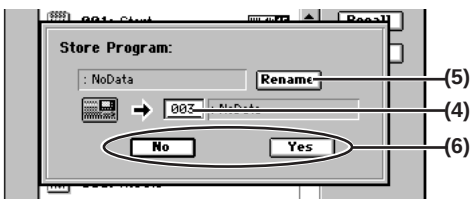
(1) Make sure the current mixer settings are the ones that you want to store.

(2) Access the MIXER, "MIXER SETUP," "MixerSetup" tab page.



(3) In the list, click to highlight the program in where you want to store the current settings (i.e., the program you want to overwrite).

(4) Click the Store button to open the Store Program dialog box.
If you decide that you want to store the settings in a program number other than the one shown in the cell, you can click to highlight it and use the **value dial** (or the **+/–** keys) to change the program number.



(5) If you want to assign or edit the program name, click the Rename button to open the Rename dialog box (→p.36).

(6) Save the mixer setup.
Click the **Yes** button (or press the panel **YES** key) to save the settings.
If you decide to cancel, click the **No** button (or press the panel **NO** key).

Recalling a mixer setup

Here's how to recall a previously-stored mixer setup program.

You can't recall a setup while a song is playing.

(1) Access the MIXER, "MIXER SETUP," "MixerSetup" tab page.

(2) In the list, click to highlight the program that you want to recall.

(3) Click the Recall button to open the Recall Program dialog box.

(4) Recall the mixer setup.
Click the **Yes** button (or press the panel **YES** key) to recall the settings.
If you decide to cancel, click the **No** button (or press the panel **NO** key).

A program saved in a 44.1 kHz or 48 kHz song can be recalled into either a 44.1 kHz or 48 kHz song.

note *When the D3200 is shipped from the factory, mixer setup programs 1 through 20 are stored as **"NoData."** Recalling one of these programs will set the mixer to the same settings as when it is initialized (i.e., when you create a New Song).*

4. Storing / recalling a scene

You can register frequently-used mixer settings at a desired location and store them as a "scene" for later recall.
After recalling a scene, you can store it again as a new scene, or edit some of the mixer settings and store (overwrite) it back into the same scene memory.

Default Scene is automatically registered at the beginning of the song when you create a new song (→p.35), and always saves the state of the mixer settings at the end of the song.
If automation is off and a scene is not selected, or if automation is on but a scene has not been stored at the beginning of the song, the mixer settings of the default scene will be used, and will appear in the selected scene cell as the current scene.

You can store the desired scenes at various locations in the song so that if Automation is turned on, these scenes will be selected automatically when playback reaches the corresponding locations. (→p.52 "5. Automation")

You can store up to one hundred scenes for each song.

A scene can contain the following settings.

Channel parameters
CH ON, Play EQ, ATT, send, insert effect assignment, fader, pan

Effects
Program numbers of the insert effects, master effects, and final effect

Effect return, MASTER fader, AUX level, master EQ

note ***MASTER*** *fader settings included in a scene will be valid when playing back the tracks or when recording the master track, but will be ignored when playing back the master track.*

Caution when storing effects in a scene

Scenes contain the effect program numbers.
If you store a scene when you have edited the effect parameters but not stored the effect program, the scene will contain the unedited effect program.
If you edit an effect program, be sure to save the effect program before you store the scene.

4-1. Storing a scene

(1) Adjust the mixer settings.
Adjust the channel faders, Pan, EQ, and effects to the settings that you want to store.

(2) Press the STORE key.
The **StoredTime** dialog box will appear.
If you decide not to store the scene, click the **Exit** button.

note *The scene contains the mixer settings and the location at the point you press the* ***STORE*** *key.*

(3) Press the SCENE key to store the scene.
The settings will be stored, and the dialog box will close.

The scenes you store are numbered in ascending order. You can perform steps (2) to store a scene even while the song is being played or recorded.

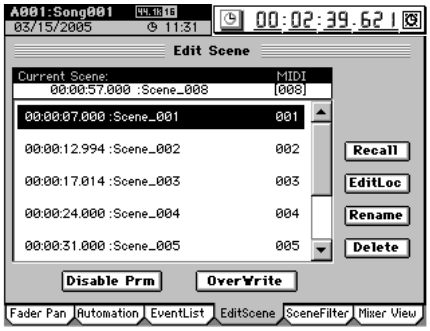
4-2. Recalling a scene

Here's how to recall mixer settings that you registered as a scene.

(1) Access the SCENE, "Automation" tab page, and click off the Automation button.

note *If* ***Automation*** *is* ***"ON,"*** *you will only be able to recall the scene that is registered at the current location.*

(2) In the scene list displayed in "EditScene" tab page, select (highlight) the desired scene, and click the Recall button.
The selected scene will be recalled.



4-3. Renaming a scene

(1) Access the SCENE, "EditScene" tab page, and click the scene (highlight) you want to rename.

(2) Click the Rename button to display the Rename dialog box.

(3) Edit the name (→p.36).

4-4. Deleting a scene

You can delete an unwanted scene.

Undo is not available for this operation.

(1) Access the SCENE, "EditScene" tab page, and click the scene (highlight) you want to delete.

(2) Click the Delete button to display the Delete Scene dialog box.

(3) Click the Yes button (or press the panel YES key) to delete the scene.
If you click the **No** button (or press the panel **NO** key), you will return to the **"EditScene"** tab page without deleting the scene.

If you want to delete all scenes, click the **Select All** button to turn it on, and then click the **Yes** button (or press the panel **YES** key) to delete all the scenes stored for this song.

4-5. Editing and overwriting a scene

You can edit some of the settings of a scene, and overwrite your changes onto the stored scene.

(1) Recall the scene.
As described in "4-2. Recalling a scene," recall the scene that you want to edit.

(2) Edit the settings of the scene.
Adjust the **channel faders**, Pan, EQ, and effect parameters to edit the scene.

(3) Click the OverWrite button to display the Over Write Scene dialog box.

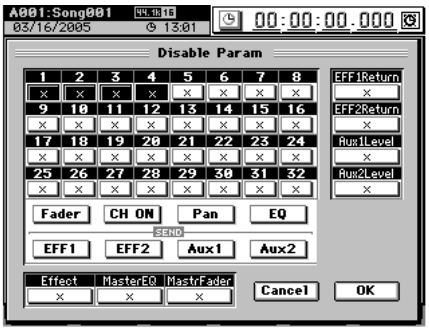
(4) When you click the Yes button (or press the panel YES key), your changes will be overwritten onto the scene of that number.
If you click the **No** button (or press the panel **NO** key), you will return to the **"EditScene"** tab page without making any changes.

4-6. Specifying parameters that will be disabled for an individual scene

For each scene, you can specify that the settings of certain parameters will not be altered when the scene is recalled. The channel parameters and send settings of the highlighted buttons will be excluded from recall.

(1) Recall the scene.
As described in "4-2. Recalling a scene," recall the scene that you want to edit.

(2) Click the Disable Prm button to display the Disable Param dialog box.



(3) Adjust the settings.
Select the channels whose parameters will be disabled for recall, and select the parameters or sends of those channels that will be disabled.
For the **EFF1/2 Return**, **AUX 1/2 Level**, **Effect**, **MasterEQ**, and **MasterFader** parameters, you can disable settings of the highlighted buttons regardless of the selected channel.

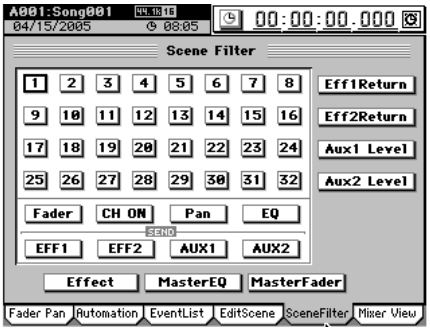
Fader, CH ON, Pan, EQ, EFF 1/2, and Aux 1/2 filter settings apply only to the channels that are disabled (highlighted).

(4) Click the OK button (or press the panel YES key) to close the dialog box.

4-7. Specifying parameters that will be disabled for all scenes

You can specify parameters that will be excluded from scene recall operations for any scene in the song. The channel parameters and sends whose buttons are highlighted in the display will be excluded from (i.e., unaffected by) scene recall operations, regardless of the scene that is recalled.

Access the **SCENE**, **"SceneFilter"** tab page, and click the buttons for the channels and controls for which you want to disable scene recall.
Parameters whose buttons are highlighted will not be recalled.



4-8. Controlling scenes via MIDI

MIDI output

A scene change (program change) message is transmitted when the scene changes.
If the **SYSTEM/MIDI**, **"MIDI/MMC"** tab page **Program Change** button is on (highlighted), messages will be output in the following cases.

- When you select a scene in the **SCENE**, **"EditScene"** tab page.
- If automation (→p.52) is turned on, when the scene changes during playback or recording

MIDI input

If the D3200 receives a scene change (program change) message when automation (→p.103, 105) is turned off, it will switch to the scene of the corresponding number.

(1) Connect your external MIDI device (→p.94).

(2) In the SYSTEM/MIDI, "MIDI/MMC" tab page, set "GlobalCh" to the channel of the external MIDI device that will be transmitting the program change message.
Turn the **SYSTEM/MIDI**, **"MIDI/MMC"** tab page **Program Change** button on (highlighted).

(3) Access the SCENE, "EditScene" tab page, and turn Automation "OFF."

(4) Send program change messages from your external MIDI device to recall scenes on the D3200.
When the D3200 receives program change #0, scene **"000"** will be recalled.
Program change messages #0–100 correspond to scenes **"000"–"100."**

5. Automation

Automation is a function that automatically modifies mixer settings as the song location changes during playback. There are two types of automation; scene automation and event automation.

When automation is on, you can use the **SCENE "Mixer View"** tab page to view fade-in and fade-out operations and scene changes in which fader values change.

5-1. Scene automation

This type of automation automatically switches mixer settings when the song location during playback or recording arrives at the registered location for that scene.

When you register a scene, the location is also registered along with the other settings. When the current location of the song matches the registered location of the scene, the Scene Automation function will automatically select this scene, causing the mixer settings to change to the settings of the scene.

You can also re-register a scene at a different location, or edit the mixer settings of the scene and overwrite it onto the same scene memory.

Using scene automation

Scenes can be set to change automatically, when playback reaches the location where the scene was stored.

note *Store the scene at the location where you want the mixer settings to change (→p.50 "4-1. Storing a scene").*

(1) Access the SCENE, "EditScene" tab page, and turn Automation "ON."
The automation indicator will light.

(2) Play back the song.
Move to the location where you want the playback to start, and press the **PLAY** key.
When playback reaches the location at which the scene was stored, that scene will be recalled.

Storing a scene at a different location

You can recall a stored scene and store it again at a different location.

(1) Recall the scene that contains the mixer settings you want to store again at a different location.
For the procedure, refer to "4-2. Recalling a scene" (→p.50).

(2) Move to the location at which you want to store the scene (→p.38).

(3) Store the scene.
For details, refer to "4-1. Storing a scene."

Editing the location of a stored scene

You can edit the location of a stored scene to change when it will become active during playback.

(1) Access the SCENE, "EditScene" tab page, and select (highlight) the desired scene.

(2) Click the EditLoc button to display the Edit Scene Location dialog box.

(3) Edit the location, and click the Yes button (or press the panel YES key) to finalize the change.
If you click the **No** button (or press the panel **NO** key), you will return to the **"EditScene"** tab page without making any change.

note *You can also change the location in the **"EventList"** tab page.*

5-2. Event automation

This type of automation records mixer operation events such as fader movements or pan motion during playback, and reproduces these operations at the corresponding time during playback or recording.
You can also selectively re-record the recorded events, or copy them to another location or a different channel.
You can keep recording events until the Events Remaining indication reaches 0%.
The following operations can be recorded as events.

- Fader operations of each channel
- MASTER fader operations
- Channel On operations of each channel
- Pan operations of each channel
- AUX send operations of each channel
- Effect send operations of each channel
- Expression pedal operations

You can use the **Undo** function to restore recorded or edited automation events to their state prior to recording or editing.

note *If a scene is stored within the region where you want to record events, we recommend that you use the **SCENE**, **"SceneFilter"** tab page (→p.106) to disable the settings of that scene for the parameter(s) you intend to record, so that those parameters will be affected only by the event automation.*

Recording mixer operations

There are two ways to record event automation.
You can overwrite all events from the point where you start song playback / recording until the point where you stop (**Over Write**). Alternatively, you can record only the operations that occur between two specified locations, or only for the region in which you actually operated the faders (**Punch Write**). (→p.104)
As an example, here's how to use **"Over Write"** to record events while the song plays back.

(1) Select the song that you want to use to record mixer operations.

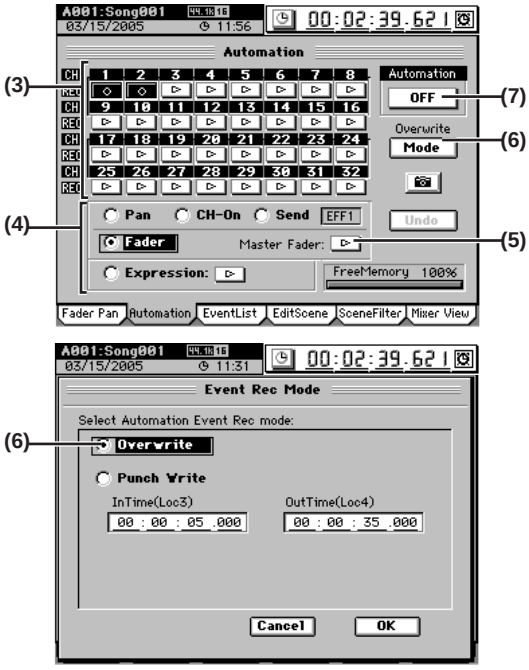
(2) Move to the location at which you want to start recording automation, and store the mixer settings as a scene.
Automation recording will start from the location of the scene you store here, and this scene will be the mixer settings at the beginning of the recording.

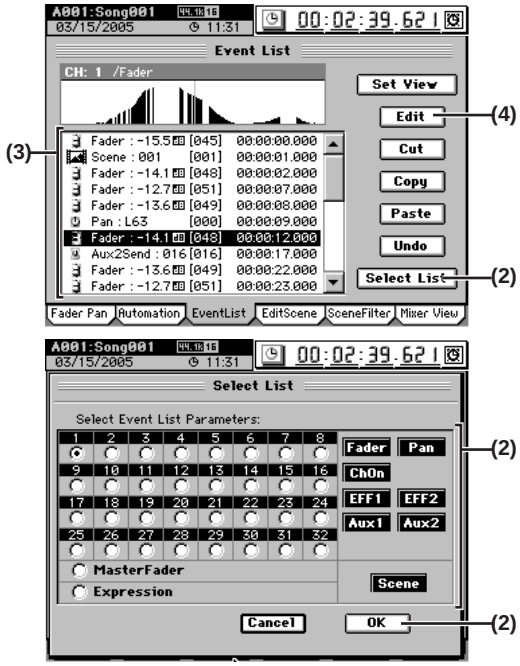
- If you want to use an existing scene, recall that scene, move to the location at which you want to begin recording automation, and store the scene again.

(3) Access the Scene, "Automation" tab page, and select the channels for which you want to record mixer operations.
If you want to record events for a channel, click its button to make it indicate "○".

(4) Use the Pan, CH ON, Send, Fader, and Expression radio buttons to select the type of event you want to record.
You can record only one type of event at a time.

*If you select **Send**, events will be recorded for the Send key **(INTERNAL 1/2, AUX 1/2)** selected by the cell beside the button.*





(5) If you selected "Fader," you have the option of also recording Master fader operations.
If desired, click the **Master Fader** button to make it indicate "○".

(6) Click the Mode button to access the Event Rec mode dialog box.
Select "**Overwrite,**" click the **OK** button (or press the panel **YES** key).

(7) Turn "Automation" ON (Rec).
The automation indicator will blink.

(8) When you play back the song, event recording will begin.
Adjust the mixer settings for the events you are recording.

(9) When you stop the song, event recording will end.
Automation will automatically switch **ON (Play)**, and the automation indicator will light.
If you want to additionally record other events in the song, repeat the procedure from step (3).

note *If you made a mistake, you can click the **Undo** button to return to the previous state. If the **Undo** button is displayed as **Redo**, you can press it to cancel the Undo.*

Playing back the events

Here's how to play back the recorded events as the song plays.

(1) Select a song that contains recorded events.

(2) Access the SCENE, "Automation" tab page, and set "Automation" to "ON (Play)."
The automation indicator will light.

(3) When you play back the song, the recorded events will play back as the song progresses.

Editing events

You can edit recorded events in either of two ways; by changing the value or location of events in the event list, or by overwriting events in the desired region.

(1) Access the SCENE, "EventList" tab page.

(2) Click the Select List button to open the Select List dialog box. Choose the channel and parameter of the events you want to edit.
Select a channel 1–32, the master fader, or expression (you may select only one of these), and then click the **OK** button (or press the panel **YES** key).

(3) In the event list, select the event that you want to edit.
If you want the events of the event list to be shown in the Event View area, click the **Set View** button and use the **Set View** dialog box to select the desired parameter (→p.104).

(4) Click the Edit button to open the Edit Event dialog box.
The parameter, value, and location of the selected event will be displayed in detail.

- Use the **value dial** (or **+/–** keys) to select (highlight) the item you want to edit.

If a scene is selected, you can edit only the location.

In this screen as well, you can click the move cell ↕ and use the **value dial** (or **+/–** keys) to change the event being edited.

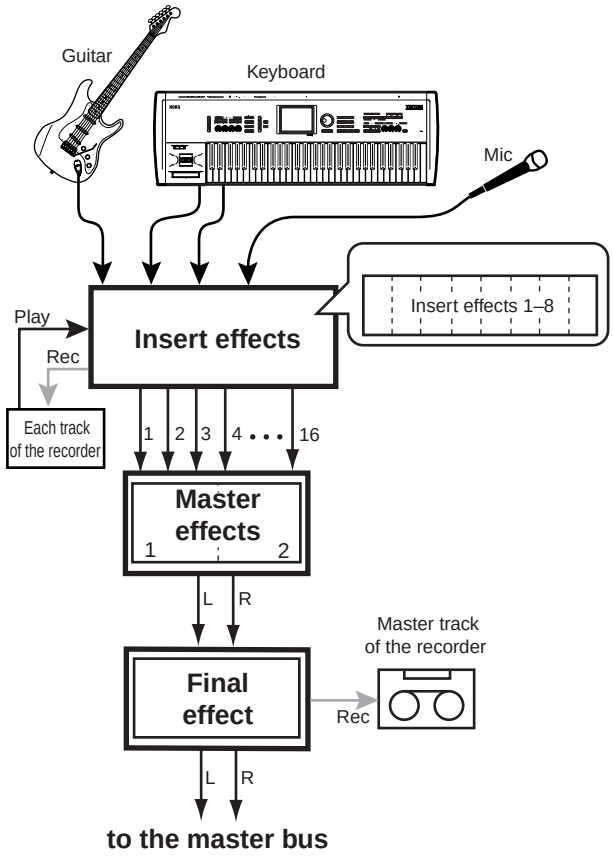
(5) Click the OK button to execute the edit and update the event list.
If you decide not to execute, click the **Cancel** button. Alternatively, you can us the panel **YES** or **NO** key.

Cut, copy, or paste an event

You can use the **Cut**, **Copy**, or **Paste** buttons to cut, copy, or paste the selected event.
For details on these operations, refer to the Reference manual, "2c-3. Event List" (→p.104).

Effects

The D3200 provides up to eight insert effects that you can insert into mixer channels, up to two master effects that can process the sends from each channel, and one final effect to process the master bus.



The effect programs are common to all of the above types of effect. There are 128 preset effect programs.
Each effect program is constructed from one of 52 different effect algorithms.
There are 128 user effect programs in which you can store your own edited settings, and 32 song effect programs for each song, in which you can store effect settings for that specific song.

note *Each song can store its own 32 song effect programs.*

You cannot rewrite the preset effect programs. However, a preset effect can be recalled, edited and stored to a user program.

Effect type and size

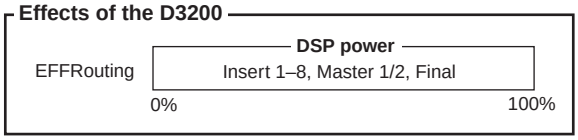
There are two types of effect program: stereo and mono. You can use either type of program as an insert effect, but mono programs cannot be used as master effects or as the final effect.

Insert effect 8 cannot use a stereo effect program.

As an example, the type of effect programs that can be used to provide eight simultaneous insert effects are called "size-1" programs. Relative to this, other more complex effect programs are categorized as "size-2" or "size-4" programs.
The size of each effect program is shown by an icon "1" displayed at the right of the effect name.

How DSP power is allocated to the effects

On the D3200, the term "DSP power" refers to the total processing capability that can be used to process effect programs.



There is enough DSP power to process "16 sizes-worth" of effect programs.
A total of eleven effects can be used by insert, master, and final effects, but since the sum of the all the effect sizes is limited to no more than 16, the number of effects that can be used simultaneously will change, depending on the combination of effect sizes.
A specific amount of DSP power is allocated to the insert, master, and final effects, and the breakdown for each variety of effect is shown in the following table.

Number of effects and DSP power for each variety of effect

Variety	Maximum number of effects that can be used simultaneously	Maximum size assignable to one effect
Insert	8	8
Master	2	4
Final	1	4
Total	11	16

i.e. *If you use a size-8 effect for insert effect 1, insert effects 2–8 will be unavailable.*
If you use a size-4 effect for master effect 1, master effect 2 will be unavailable.

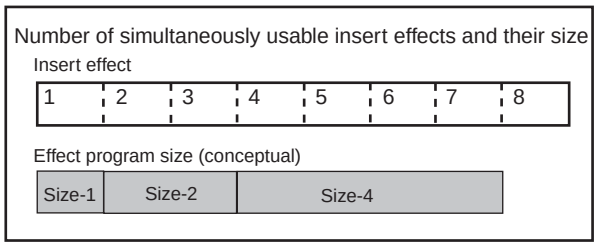
When assigning effects, pay attention to the DSP power indicator in the **"EFFRouting"** tab page to see how much DSP power is available.

For details, refer to "Effects that can be used simultaneously" (→p.114) in the reference section.

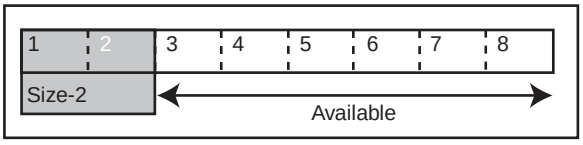
1. Using insert effects

You use insert effects by inserting them into a mixer channel to process the sound of an input source or audio track.

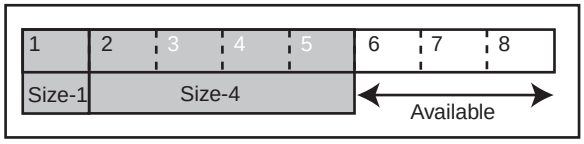
A maximum of eight insert effects can be used simultaneously, and these effect programs may have a total size of no more than 8. In other words, you must assign effect programs so that their total size stays within this limit.



i.e. *If you use a size-2 effect for insert effect 1, only six more insert effects (3–8) will be available.*



i.e. *If you use a size-1 effect for insert effect 1, and a size-4 effect for insert effect 2, only three more insert effects (6–8) will be available.*



1-1. Applying insert effects during recording

You can apply an insert effect to an audio input source connected to the input jack, and record the sound processed by the effect.

For details on how to apply an insert effect on a channel input, refer to Quick Start. (→p.23)

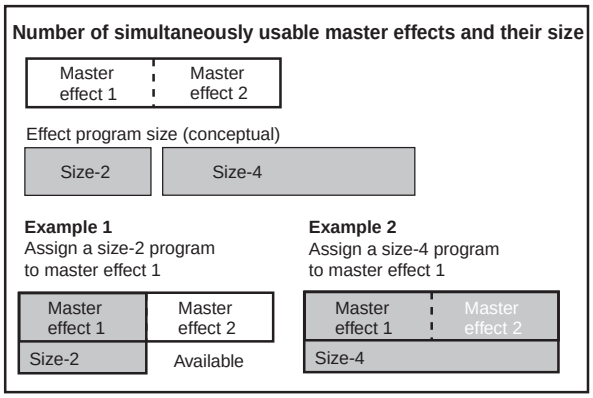
1-2. Applying insert effects during playback

You can apply an insert effect to the playback of a previously-recorded track.

For details on how to apply an insert effect to the track playback, refer to Quick Start. (→p.28)

2. Using master effects

To use a master effect, adjust the send level of each channel to send some of its signal to the effect. The master effects are typically used to apply reverb or to make the overall mix richer and better balanced.
The D3200 provides two master effects (MstEFF1 and MstEFF2), and these can be used simultaneously. However if you use a size-4 effect, the available processing power of both master effects will be used, so only master effect 1 will be available.



To adjust the depth of the effect, adjust the send level from each channel.
AUX send is used when applying external effects.

You can select an effect program for the master effect in the **EFFECT**, **"MstrEFF1"/"MstrEFF2"** or the **EFFECT**, **"EFFRouting"** tab page.

For details on how to use the master effects, refer to Quick Start. (→p.29)

3. Using the final effect

The D3200 provides one stereo-in / stereo-out final effect, which is applied to the master bus.

The final effect is used mainly with a dynamics-type effect program (such as compression) to adjust the overall level for mastering.

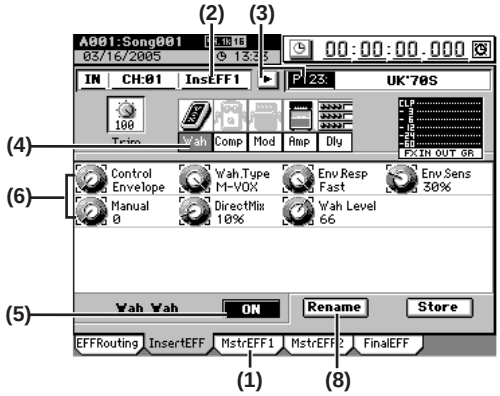
You can select an effect program for the final effect in the **EFFECT**, **"FinalEFF"** or the **EFFECT**, **"EFFRouting"** tab page.

For details on how to use the final effects, refer to Quick Start. (→p.31)

4. Editing the effects

You can edit the effect programs used by the insert effects, master effects, and final effect quickly and easily using the Knob Matrix.

Editing the effect parameters



For an insert effect

(1) Access the EFFECT, "InsertEFF" tab page.

(2) Select the insert effect (InsEFF1–8) that you want to edit.
Click the insert effect cell (highlighted), and use the **value dial** (or the **+/–** keys) to select an insert effect 1–8.

(3) The effect program assigned to the selected insert effect will appear. Below it, icons will show the algorithm used by that program.
To select a different program, click the popup button and make your selection.

(4) If the algorithm contains more than one effect icon, click the cell below the icon you want to edit (it will become highlighted), and a list of the parameters for that effect will be displayed.
If the program consists of only one effect, the displayed parameters are all that exist.

(5) Listen to the effect settings.
When you turn the **ON/OFF** button **OFF**, the effect will be bypassed, and the effect icon(s) will be grayed-out. When you turn the button **ON**, the effect will be applied. This way, you can listen to the difference that the effect makes and listen to the original sound as a reference.

(6) Use the Knob Matrix located below the LCD screen to edit the parameter values.

- To edit the value of a parameter, turn the knob in the Knob Matrix in the location corresponding to that knob icon.

(7) If the program consists of two or more effects, select the icon of the effect that you want to edit, and edit its parameters in the same way.

(8) Assign a name to the effect program that you edited.

- Click the **Rename** button to access the **Rename** dialog box. (→p.36 "1-2. Renaming a song")
- After you have assigned the desired name, click the **OK** button (or press the panel **YES** key).

For a master effect or final effect

(1) Access the EFFECT, "MstrEFF1" (or "MstrEFF2")/ "FinalEFF" tab page.

(2) Perform steps (3) and following of "For an insert effect," above.

Storing an effect program

- If the song is playing, press the **STOP** key.
- Click the **Store** button in the effect tab page to display the **Store Program** dialog box.
- Click the **Area** list button and select either User or Song from the list.

  U (User): User effect program. You can store 128 effect programs which are shared by all songs.

  S (Song): Song effect program. You can store 32 effect programs specific to each song.
- Click the number cell to specify the store-destination (it will be highlighted), use the **value dial** (or the **+/–** keys) to select the number, and then click the **Yes** button (or press the panel **YES** key) to store the effect program.

note *When you store the effect program, it will overwrite and replace any data that had been stored in that number.*

5. Controlling effects from an external device

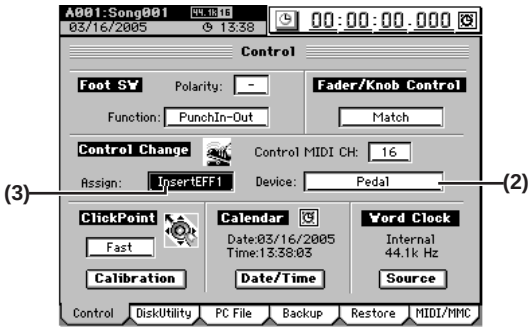
In addition to the Knob Matrix, you can also use an expression pedal or external MIDI controller to control the D3200's effects in real time.
For details on the effect parameters that you can control, refer to "Effect parameter" (→p.150–).

i.e. Using a pedal or MIDI to control an effect.

(1) Connect an expression pedal such as the EXP-2 foot controller (sold separately) or an external MIDI controller (→p.11).

(2) Access the SYSTEM/MIDI, "Control" tab page.
In this example we will use a pedal to control the effect. In the **Control Change** area, click the **Device** cell to select **"Pedal."**

note *If you want to use MIDI to control the effect (rather than using the pedal as in this example), you must specify the type of MIDI message that you want to use. Access the **SYSTEM/MIDI**, **"Control"** tab page, and set **"Control MIDI CH"** to the MIDI channel on which that your external MIDI device is transmitting.*



(3) Select the effect that you want to control.
In the **Assign** field, select the effect (**InsertEFF1...8/MasterEFF 1**, **2/FinalEFF**) that you want to control.

(4) Select the effect program that you want to control.
Press the **EFFECT** key for the effect you chose in step (3), and select an effect program in the appropriate tab page.

(5) Specify the parameter and range that you want to control.

- A control icon will be added at the end of the effect chain of the selected program. Click (highlight) this control icon to display the control-related parameters.
- Click the **"Control"** to on.
- Use the effect knobs to specify the range.

note *If you want to save these settings, store the program as described on "Saving a song" (→p.42).*

(6) Operate your expression pedal or external MIDI controller to control the effect parameter you specified.

6. Using external effects

You can use the **AUX** jacks to provide a "send" to an external effect processor. The "return" signal from the output of your external effect processor can be connected to the **INPUT 1–12** jacks. The signal can then be routed to the master bus via the mixer or the sub-mixer.

i.e. Sending the playback signal to an external effect processor, and using INPUT 3 and INPUT 4 jacks to return it to the master bus via the sub-mixer

(1) Connect your external effect processor.
Connect one of the D3200's **AUX** jacks to the INPUT jack of your external effect processor, and connect the OUTPUT jacks of the effect processor to the D3200's **INPUT 3** jack and **INPUT 4** jack.

(2) Send the playback signal to the external effect.

- Access the **MIXER**, **SEND (EFF/AUX/REC)**, **"Aux-Send"** tab page.
- Make adjustments using the Knob Matrix for the channel you're sending to the external effect. Alternatively, you can click a knob icon to select it, and click the ▼ / ▲ buttons to adjust the value.
- Click the button located above the knob icon to select either pre-fader (**PRE**) or post-fader (**PST**) as the location from which the signal will be sent to AUX.

(3) Input the audio signal from the external effect processor.

- Access the **MIXER**, **CH INPUT/SubMixer**, **"SubMix 1–4"** tab page.
- Using the Knob Matrix, adjust the **"Level"** to specify the return level, and adjust **"Pan"** to specify the return pan. (→p.101)

Session Drums™

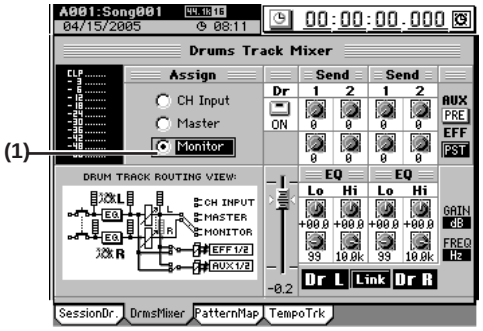
The D3200 is equipped with Korg's Session Drums. By using Session Drums in conjunction with the Knob Matrix, you can easily create a realistic drum track for your song, without tedious programming. This drum track can be used as reference as you record, or as part of your completed song.
Patterns are the basic elements of the drum track. By stringing different patterns together and adding fills, intro and ending patterns, you can create a program map.
The Session Drums is recorded on its own dedicated track, so you can use the pattern map to play drum patterns and still have thirty-two tracks available for recording.

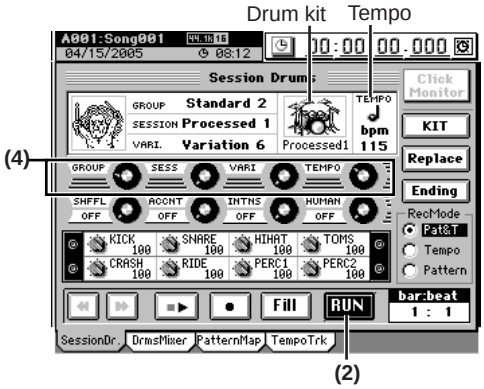
1. Listening to drum patterns

If the song is playing, press the STOP key to stop playback.

The D3200 contains 756 drum patterns (→p.176 "Drum Pattern List").

(1) Access the SESSION DRUMS "DrmsMixer" tab page, and click the "Assign" Monitor radio button.





(2) Access the SESSION DRUMS "SessionDr." tab page, and click the RUN button (it will be highlighted) to hear the current pattern.
To stop the pattern, click the **RUN** button once again.

(3) Use the DRUMS fader to adjust the volume of the drum pattern.

(4) Use matrix knobs 1–4 to select drum patterns and adjust the tempo.

- Use the **GROUP** knob to select a family of drum patters, or the drum pattern group.
- Use the **SESS** knob to select a pattern set from within the current group.

note *When you use the **GROUP** and **SESS** knobs to select a pattern set, the drum kit and tempo will change as well. It takes about one second to switch drum kits.*

- Use the **VARI** knob to select a variation of the current pattern set. Turning the knob toward the right will make the pattern "busier" and add more sounds.
- Use the **TEMPO** knob to adjust the tempo.

note *For now, keep matrix knobs 5–8 all the way toward the left in their **"OFF"** position. We'll get to these in the next section. For details on what each knob does, refer to "Auditioning the pattern map" (→p.59).*

If you select a new pattern using the **GROUP**, **SESS**, or **VARI** knobs while a pattern is playing, the Session Drums will switch to the new pattern at the beginning of the next measure.

If you click the **Fill** button while a drum pattern is playing, a fill-in pattern will play at the beginning of the next measure, and then the Session Drums will revert to the previous drum pattern.

If you select a new pattern using the **GROUP**, **SESS**, or **VARI** knobs while a fill-in pattern is playing, the Session Drums will switch to the newly selected pattern when the fill-in ends.

If you click the **Ending** button while a drum pattern is playing, an ending pattern will play at the beginning of the next measure, and then the Session Drums will stop.

If you click the **RUN** button while the Session Drums are playing, the drumming will stop.

note *While the **"SessionDr."** tab page is displayed, you can use the panel **LOC 3** and **LOC 4** keys instead of the on-screen **RUN** and **FILL** buttons. You can also hold down the panel **SESSION DRUMS** key and press the **LOC 3** key instead of the on-screen Ending button.*

If you've selected Metronome as the group

If you use the **GROUP** knob to select **"Metronome,"** the time signature and the accent sound will be as specified by the **SESS** knob and **VARI** (shown as **BEAT**) knob.

2. Creating a drum track for an entire song (Pattern Map)

Here we will explain how to create a sequence of drum patterns (a pattern map) for the entire song by switching variations in real time.

You can't create a pattern map if the song's Protect setting is turned on.

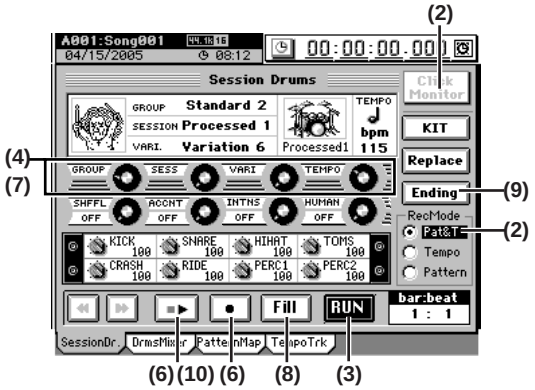
(1) Access the SESSION DRUMS "DrmsMixer" tab page, and click the "Assign" Monitor radio button.

(2) Access the SESSION DRUMS "SessionDr." tab page.

- If the **Click Monitor** button is on (highlighted), click it to turn it off.
- Click the **"RecMode" Pat&T** radio button. (→p.143 "11. Rec Mode")

(3) Click the RUN button (it will be highlighted), and you will hear the currently-specified drum pattern.
To stop the pattern, click the **RUN** button once again.

(4) Use the DRUMS fader to adjust the volume of the drum pattern.



(5) Use matrix knobs 1–4 to select the drum pattern that you want to use for the starting measure.

- Use the **GROUP** knob to select the drum pattern group.
- Use the **SESS** knob to select a pattern set from within the current group.
- Use the **VARI** knob to select a variation of the currently selected pattern set. Turning the knob toward the right will make the pattern "busier" and add more sounds.
- Use the **TEMPO** knob if you want to set a different tempo for this event.

(6) When you've chosen the drum patterns you want to use, click the Record button (it will be highlighted), and then click the Play/Stop button (it will be highlighted) to start recording the drum map.

note *While the **"SessionDr."** tab page is displayed, you can use the panel **LOC 1** and **LOC 2** keys instead of the on-screen Play/Stop and Record buttons.*

(7) As the pattern plays, use the VARI knob (matrix knob 3) to switch pattern variations.
Turning the knob toward the right will make the pattern "busier" and add more sounds.

(8) When you want to insert a fill-in, click the FILL button while the preceding measure is still playing.

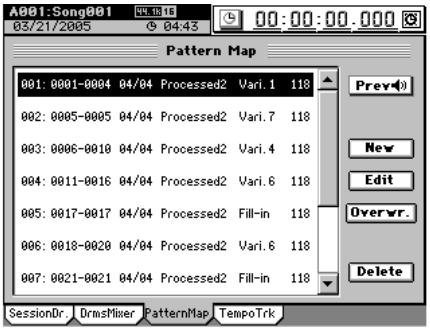
(9) When you want to insert an ending pattern, click the Ending button while the preceding measure is still playing. After the ending pattern has been recorded, a blank pattern will be recorded.

(10) If you want to record tempo changes as you record, use the TEMPO knob (matrix knob 4).

The tempo settings used during recording will be saved as part of the tempo track. During recording, you can use the TEMPO knob to gradually increase or decrease the tempo, starting at that location. If you want the song to instantly change to a new tempo setting at the beginning of a specific measure, record at a fixed tempo, and then edit the pattern map (→p.64 "6-2. Pattern map tempo") to change the tempo.

(11) At the last measure of the drum performance, click the PLAY/STOP button to stop recording the pattern map.

You can use the **"PatternMap"** tab page to view the pattern map that you created in this way.



Auditioning the pattern map

To hear the pattern map you just created, access the **SESSION DRUMS "SessionDr."** tab page and click the Play button.
You can use the on-screen rewind and fast-forward buttons to move between measures. Alternatively, you can hold down the **SESSION DRUMS** key and use the panel **+/–** keys to move between measures.
Since this data is already recorded on the Session Drums track, you will also be able to audition the pattern map if you move to the beginning of the song, turn on the **DRUMS** key, and press the **PLAY** key to play back the song.

note *When you use the on-screen buttons or the panel keys to move between measures, the counter will automatically switch to the measure display.*

As the pattern map plays, you can use the matrix knobs 5–8 to listen to other Session Drum features.

- Use the **SHFFL** knob to add various amounts of "shuffle" feel to your drum track.
- The **ACCNT** and **INTNS** knobs can add more dynamics to your drum track. The **ACCNT** knob selects different accent tables, and the **INTNS** knob sets depth of accent.
- The **HUMAN** knob adds introduces slight variations in timing and velocity to add a more "human" feel to your drum track.

3. Recording with Session Drums

The drum track you create using Session Drums can be used in a variety of ways. You can listen to the drum track as a reference as you record your other tracks. The Session Drums can be assigned to inputs and recorded on channel tracks, allowing you to add insert effects as they are recorded. You can also introduce the drums to the master bus, so that the Session Drums will be mixed in as part of your master track.

Recording additional tracks as you listen to the drum track

Here's how you can record a performance while listening to drum patterns as a guide rhythm.

(1) Access the SESSION DRUMS "DrmsMixer" tab page, and set "Assign" to either Monitor or Master.

(2) Turn on the DRUMS key.
Use the DRUMS fader to adjust the volume.

(3) Connect your input devices, and begin recording.
Refer to "1. Inputting audio to the mixer" (→p.42).

(4) If Click Monitor is turned on in the SESSION DRUMS "SessionDr." tab page, the currently-specified drum pattern will play. If Click Monitor is turned off, the pattern map will play.

If Click Monitor is off and nothing is recorded in the pattern map, the drums will not play.

The drums themselves will not be recorded using this procedure.

Recording patterns on a track

Drum patterns, or a drum track created using the Session Drums pattern map, can be assigned to channel tracks and recorded. You can also use the Session Drums to create a drum track for a song that has already been recorded.

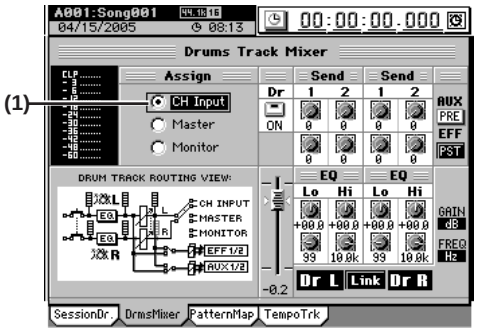
Recording Session Drums to a channel track

You can record the drum pattern or drum map playback to a pair of tracks (stereo) on the D3200.

i.e. **Recording drum patterns to tracks 1 and 2**

(1) Make preparatory settings for recording.

- Access the **SESSION DRUMS "DrmsMixer"** tab page.
- In the **Drums Track Mixer**, set the **Assign** setting to **"CH Input."**
- In the **Drums Track Mixer**, adjust the EQ and faders as necessary (→p.143 "14-2. Drums Track Mixer").



(2) Specify the input channels.

- Access the **MIXER, CH INPUT/SubMixer "Ch Assign"** tab page.
- Use the ▼ / ▲ buttons (or the value dial or +/– keys) to set the **CH1 SOURCE** cell to **"L"** (L) and the **CH2 SOURCE** cell to **"R"** (R).

(3) Record.

Refer to "1-1. Basic recording" (→p.64).
Press the **REC** key to put the D3200 in record-ready mode, and then press the **PLAY** key to start recording.

Recording directly to the master track

The playback of a drum pattern or pattern map can be mixed in with the playback of your recorded tracks during mixdown to create a complete master track.

i.e. Adding the pattern map playback during mixdown to the master track

(1) Make preparatory settings for recording.

- Access the **SESSION DRUMS "DrmsMixer"** tab page.
- In the **Drums Track Mixer**, set the **Assign** setting to **"Master."**
- In the **Drums Track Mixer**, turn **Dr** (or the panel **DRUMS** key) on.
- In the **Drums Track Mixer**, adjust the EQ and faders as necessary (→p.143 "14-2. Drums Track Mixer").

(2) Record.

Refer to "1-6. Creating a master track" (→p.67).
Press the **REC** key to put the D3200 in record-ready mode, and then press the **PLAY** key to start recording.

4. Editing a drum kit

You can select which drum kit is being used to play the drum patterns. You can also edit the level, pan and tuning of the individual sounds in the drum kit.

You can't edit a drum kit if the song's Protect setting is turned on.

Although you are free to change the pattern variation or tempo after editing a drum kit, the settings will revert to the original drum kit if you then change the pattern group or session.

Selecting a drum kit

(1) Click the RUN button (highlighted) to play the drum pattern using the current settings.

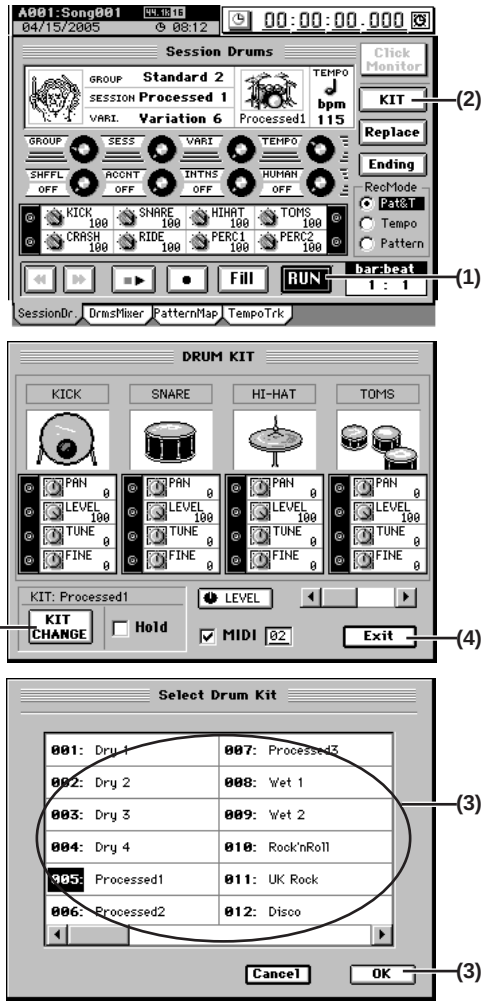
(2) Click the KIT button.

The **DRUM KIT** dialog box will appear, showing the current drum kit settings.

note *As an alternative to the on-screen KIT button, you can also access the **DRUM KIT** dialog box by holding down the panel SESSION DRUMS key and pressing the LOC 1 key.*

(3) Click the KIT CHANGE button, and in the Select Drum Kit dialog box, select the drum kit that you want to use.

Click the **OK** button (or press the panel **YES** key) to return to the **DRUM KIT** dialog box. The drum kit has been changed.



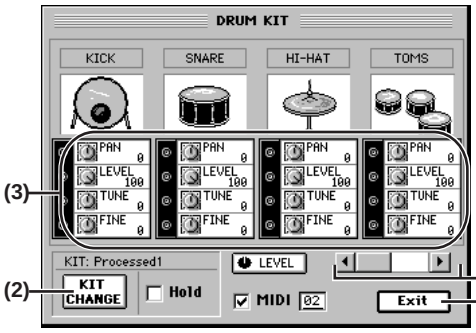
(4) Click the Exit button to return to the Session Drums page.

Editing the sound of a drum kit

(1) Set the Session Drums to play the pattern or pattern map using the drum kit that you wish to edit.

(2) Click the KIT button.

The **DRUM KIT** dialog box will appear, showing the current drum kit settings.



(3) Use the Knob Matrix to edit the various sound parameters for each drum.

Use the scroll buttons or scroll bar to switch between the drums that you want to edit.

(4) Click the Exit button to return to the Session Drums page, and click the RUN button to hear the results.

Preserving drum kit changes and drum sound edits

If you check the **Hold** check box in the **DRUM KIT** dialog box, any changes you make to the drum kit or edits you make to the individual drum sounds will be used for the entire song, regardless of the settings that were saved with the selected drum pattern.

If this option is unchecked, you will revert to the drum kit and sounds that are specified for each drum pattern.

5. Pattern maps

You can use Session Drums to create a pattern map in real time. When you do this, pattern map events will be automatically created each time you switch patterns.
By editing existing events or adding new events to this pattern map, you can create a high-quality pattern map for the entire song.

You can't create or edit a pattern map if the song's Protect setting is turned on.

*You can't use the pattern map if the **Click Monitor** button is turned on (highlighted) in the **"SessionDr."** tab page. Click the **Click Monitor** button to turn it off.*

note *When creating or editing a pattern map, the types of events that can be edited will depend on the **RecMode** setting in the **"SessionDr."** tab page (→p.143 "11. Rec Mode").*

Creating a pattern map

You can add events to the pattern map to change the time signature, drum pattern, or tempo setting at the specified measure.
By changing the number of measures and the drum pattern assigned to each event in the pattern map, you can create a drum performance for an entire song, including fill-ins and an ending.

note *Another way to create a pattern map is to use the **"SessionDr."** tab page to make the changes in real time while you listen to the drum patterns, and then use the **"PatternMap"** tab page to edit each event.*

note *The performance of the pattern map you create here is automatically recorded on the drum track, but you can also record it on a channel track or the master track (→p.59 "3. Recording with Session Drums").*

(1) Enable the pattern map.

- Access the **SESSION DRUMS "SessionDr."** tab page.
- Turn the **Click Monitor** button off (normal display).

(2) Set the parameters for event "001" at the beginning of the pattern map.

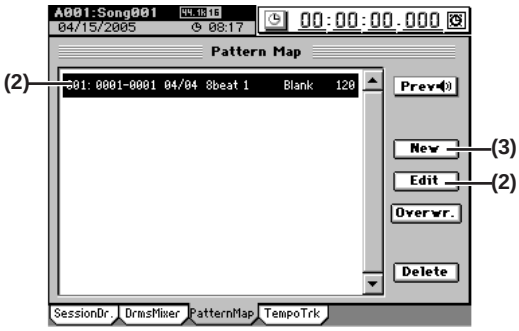
- Access the **SESSION DRUMS "PatternMap"** tab page.
- In the list, select (highlight) **"001:..."**.

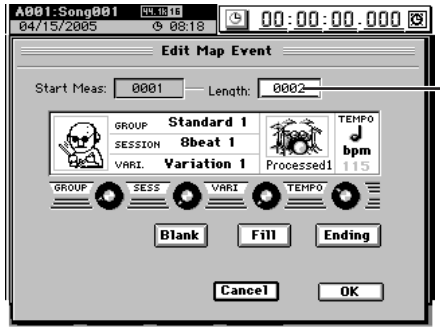
note *The pattern map consists of up to two hundred events; event **"001"** which specifies the pattern at the beginning of the song, and events **"002"** through (up to) **"200"** which specify pattern changes during the song.*

- Click the **Edit** button to open the **Edit Map Event** dialog box. When the dialog box appears, you will automatically be in preview (audition) mode.
- Use the **GROUP**, **SESS**, and **VARI** knobs to select the pattern that event **"001"** will use.
- Use the **TEMPO** knob if you want to set a different tempo for this event.
- Use the **Length** cell to specify the number of measures that the pattern will continue playing.

note *The beginning of the pattern map is fixed at **"001"** and cannot be changed.*

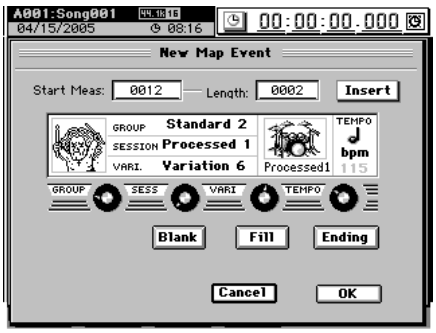
- When you've made the desired settings, click the **OK** button (or press the panel **YES** key).





(3) If you want the time signature or drum pattern etc. to change during the song, you can add more steps to the pattern map.

- Click the **New** button to open the **New Map Event** dialog box.
- Use the **GROUP**, **SESS**, and **VARI** knobs to specify the desired drum pattern.
- If you want to create a tempo change, use the **TEMPO** knob to set the new tempo. The new tempo will begin with the first measure in this event.
- If you want to select a blank pattern, a fill, or an ending pattern, click the **Blank**, **Fill**, or **Ending** buttons respectively.
- Use the **Start Meas** cell to specify the starting measure, and the **Length** cell to specify the number of measures.
- When you click the **OK** button (or press the panel **YES** key), the new event will be added to the pattern map. When you add a new event to the pattern map, the event numbers of the pattern map will be consecutively reassigned starting from the beginning of the song.
- By adding events to the pattern map, you can create the drum track for an entire song, including an intro, fill-ins, switching patterns, and an ending.
- You can click the **Prev** button to preview (audition) the drum pattern assigned to an individual event.



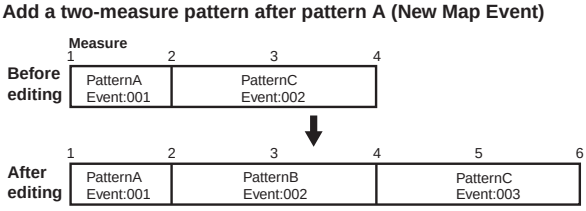
(4) Listen to the pattern map you've created.
In the **SESSION DRUMS "SessionDr."** tab page, click the Play button. The drum patterns will switch according to the pattern map you created.
Alternatively, you can move to the beginning of the song, turn on the **DRUMS** key, and press the **PLAY** key to play back the song.

Editing a pattern map

Inserting a new event into the pattern map

When you add a new event to the pattern map, the pattern map event is inserted at the specified measure. The pattern map will lengthen by the corresponding number of measures, and the subsequent event numbers will be increased accordingly.

i.e. If you insert a new two-measure event between events 001 and 002



(1) Select the location at which you want to insert an event.
Access the **SESSION DRUMS "PatternMap"** tab page, and click event **"002"** to select it.

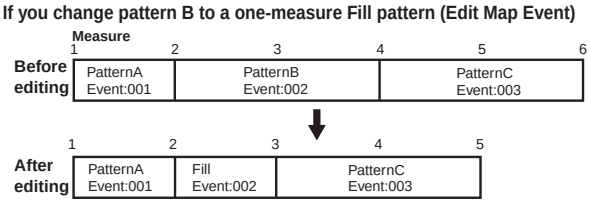
(2) Create a new event.

- Click the **New** button to open the **New Map Event** dialog box.
- Set the **Length** cell to **"002."**
- Set the parameters as desired, and click the **OK** button (or press the panel **YES** key).

(3) Verify that the event was inserted as you intended.
Check the pattern map in the **"PatternMap"** tab page.

Replacing an event

When you perform an edit that involves changing the number of measures in an event, the starting measure location of all subsequent events will be shifted toward the end of the song (if you increase the number of measures) or toward the beginning of the song (if you decrease the number of measures) by the number of measures being added or removed from the pattern map event.



(1) Select the pattern map event that you want to edit.
Access the **SESSION DRUMS "PatternMap"** tab page, and select (highlight) the pattern map event that you want to edit.

(2) Edit the step.

- Click the **Edit** button to open the **Edit Map Event** dialog box.
- Edit the parameters, and click the **OK** button (or press the panel **YES** key).

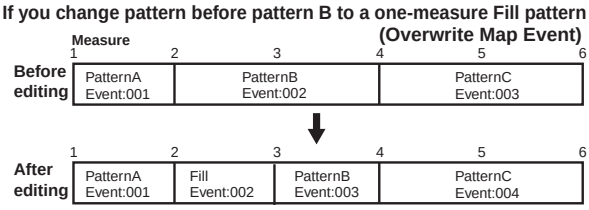
(3) Verify that the step was edited as you intended.

- Check the pattern map in the **"PatternMap"** tab page.

Overwriting a portion of an existing event

If you modify only some of the measures in an existing pattern map event by overwriting, the number of events will increase, but the total overall number of measures will not change. You can also overwrite an event that spans multiple existing events. In this case, the number of steps will decrease, but the overall number of measures will not change.

i.e. If you overwrite a Fill pattern (one measure) onto a portion of event 002



(1) Select the location at which you want to overwrite.
Access the **SESSION DRUMS "PatternMap"** tab page, and click **Pattern Map "002"** to select it.

(2) Specify the pattern that you want to overwrite.

- Press the **Overwr.** button to open the **Overwrite Map Event** dialog box.
- Click the **Fill** button (highlighted), and then click the **OK** button (or press the panel **YES** key).

(3) Verify that the event was overwritten as you intended.
Check the pattern map in the **"PatternMap"** tab page.

Deleting an event

The events located after the deleted event will be shifted toward the beginning of the song by the number of measures that were deleted.

This operation cannot be undone.

(1) Select the event that you want to delete.
Access the **SESSION DRUMS "PatternMap"** tab page, and select (highlight) the pattern map event that you want to delete.

(2) Delete the event.

- Click the **Delete** button. A dialog box will ask you to confirm the operation.
- Click the **Yes** button (or press the panel **YES** key) to delete the selected pattern map event.

note *If you click the **Select All** button to turn it on, all events other than **"001"** will be deleted, and the settings of event **"001"** will be initialized.*

(3) Verify that the event was deleted as you intended.
Check the pattern map in the **"PatternMap"** tab page.

6. Tempo

The tempo of a D3200 song is controlled by the tempo track. By creating a pattern map, you can either have the entire song play back at one tempo, or enter tempo changes throughout the song to create variations in the tempo. It is also possible to record and play back tempo changes from an external MIDI device.

*In order to change the tempo clock or to record a pattern map, you must turn off the **Clip Monitor** button in the **"SessionDr."** tab page. (Refer to "Song Guide function").*

Playing the entire song at the same tempo

Record a pattern map. When doing so, don't change the tempo setting. We suggest that you set the **"SessionDr."** tab page parameter **RecMode** to **Pattern**, so that tempo changes are not recorded.
All events will play at the tempo specified by the tempo track. (→p.64 "6-2. Pattern map tempo")

Alternatively, you can edit the tempo of event "001" (the first event of the pattern map) to make the entire song play back at the tempo you specify. (→"6-2. Pattern map tempo")

Changing the tempo during the song

If you want the tempo to change at a specific location, you can manually adjust the tempo at that point during recording. If you want the tempo to change at the beginning of a specific measure, you can edit the pattern map. The changed tempo will be maintained even if the pattern or session changes.

If you want to change the tempo of a pattern map, refer to "6-2. Pattern map tempo" below.

The Song Guide function

Even without creating a song map beforehand, you can make a drum pattern play from the monitor outputs while you record, so that the drum pattern will function as a metronome for your performance.
In the **"SessionDr."** tab page, turn the **Click Monitor** button on (highlighted), and a drum pattern will play according to the pattern and tempo settings of the currently displayed **"SessionDr."** tab page. The tempo map settings are ignored at this time. This is called the Song Guide function.

Drum patterns will not be recorded on the pattern track when you're using this function.

6-1. Tempo track

You can record MIDI Clock data or Tap Tempo data on the tempo track, and use the tempo track to control the tempo of the song.

note *If the **Click Monitor** button is turned on in the **"SessionDr."** tab page, the **Click Monitor** button will be switched off when you record the tempo track.*

Recording MIDI Clock data from an external MIDI sequencer, and using it as the tempo track

MIDI Clock data from an external MIDI sequencer can be recorded as tempo data on the tempo track.
You can use this when you want to synchronize a D3200 song with song data created on a MIDI sequencer in which the tempo changes continuously.

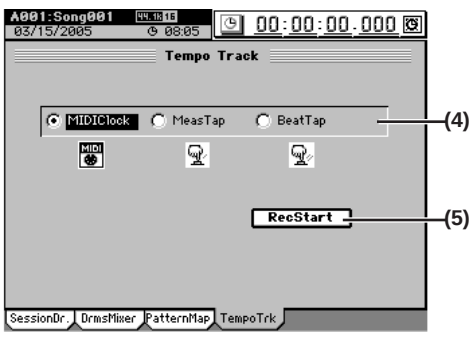
note *If MIDI Clock data was not received correctly from your MIDI sequencer, recording may stop in the middle of the song.*

(1) Specify the time signature of the song.
If the time signature of the song data created on your MIDI sequencer changes during the song, create a new pattern map that begins where the time signature changes. (→p.58)

Tempo settings will play back in synchronization, but measures will become incorrectly aligned if the time signature changes do not match.

(2) Connect the MIDI OUT connector of your MIDI sequencer to the D3200's MIDI IN connector.

(3) Set your MIDI sequencer so that it will transmit MIDI Clock messages.
Refer to the owner's manual of your MIDI sequencer.



(4) Specify how you want to record the tempo.
In the **SESSION DRUMS "TempoTrk"** tab page, set Tempo **Rec Mode** to **"MIDIClock."**

(5) Record MIDI Clock data.
- Click the **RecStart** button to put the D3200 in the record-ready state.
- Start your MIDI sequencer.
- When the D3200 starts receiving MIDI Clock data from your MIDI sequencer, it will indicate **"Receiving MIDIClock."**

(6) When your MIDI sequencer finishes playing, stop the MIDI sequencer.
When the D3200 finishes recording, it will indicate **"Complete."** Click the **OK** button (or press the panel **YES** key).

Tap tempo

You can record the tempo track by pressing (tapping) the **PLAY** key at the beginning of each measure (or on each beat) as the song plays.

note *You can use a PS-1 foot switch (sold separately) instead of the **PLAY** key (→p.119).*

Tap tempo lets you record the tempo track after a song has already been recorded. If you record the tempo for a song for which you did not originally specify the tempo, you will be able to do the following things.

- Edit tracks in units of measures
- Connect and synchronize external MIDI devices

(1) Specify the time signature of the song.
If the time signature changes during the song, create a pattern map at the location where the time signature changes.

Tempo settings will play back in synchronization, but measures will become incorrectly aligned if the time signature changes do not match.

(2) If you want to use a foot switch to input the tap tempo, connect an optional PS-1 foot switch to the FOOT SWITCH jack of the D3200.

(3) Specify how you want to record the tempo.
Access the **SESSION DRUMS**, **"TempoTrk"** tab page, and choose **Tempo Rec Mode**, **"MeasTap"** (tap at the beginning of each measure) or **"BeatTap"** (tap on each beat).

(4) Record the tap tempo track.
- Click the **RecStart** button to put the D3200 in record-ready mode. Tap tempo will be recorded from the beginning of the song.
- When you press the **PLAY** key or a connected foot switch, the song will begin playing, and tap tempo recording will also begin.
- While you listen to the playback, record the tap tempo by pressing the **PLAY** key or foot switch at the intervals you specified in step (4). The counter will be displayed while you record the tap tempo.

*When using the **PLAY** key to record tap tempo, do not strike the key any more forcefully than necessary. Doing so may damage the hard disk etc.*

(5) After you have input the last tap, press the STOP key.
For example if you are inputting four measures of a 4/4 time signature, tap four times in the case of **"MeasTap"** or sixteen times in the case of **"BeatTap"** to input up to the beginning of the fifth measure. Then press the **STOP** key.
If you input taps only until mid-way through the song, the tempo of the last-input measure or beat will be automatically copied to the end of the song.

(6) Check the tempo source.
Move to the beginning of the song, press the **PLAY** key to play back, and check the tempo.

6-2. Pattern map tempo

If you don't specify a tempo in the pattern map, the tempo will be recorded according to the tempo track. However by setting the **RecMode** to **Pat&T** or **Tempo**, you can record a pattern map and manually record tempo changes.
When you're recording the pattern map, tempo changes will apply from the location where the change occurs (regardless of the measure of the pattern), and this tempo will be maintained until the next tempo change that occurs.
If you want the tempo to change at the beginning of a measure (for example when you switch patterns), record with a fixed tempo, and then edit the tempo of the appropriate pattern map event. Subsequent events will also be automatically changed to this tempo.

Even if you edit the tempo of a pattern map event where tempo changes have already been recorded during the measure, the change will apply from the beginning of the measure.

Recorder

The D3200 has 32 channel tracks for each song. For each channel track, there are eight virtual tracks; A through H.

There is also a two-channel master track that is used for recording the final stereo mix of your song. If you want to create an audio CD, the data on the master track will be used. The D3200 provides a separate master track for each song, and this master also has eight virtual tracks; A through H.

The following table shows the number of available tracks and the number of tracks that can be used simultaneously.

Number of simultaneously usable tracks for each Song Type

Song Type	Recording	Playback	Punch recording
44.1 kHz/16-bit	16*	32	8
48 kHz/16-bit			
44.1 kHz/24-bit	12**	16	4
48 kHz/24-bit			

note **16 channels is the maximum, combining 12 analog inputs, + 2 digital inputs (S/P DIF L, R), + 2 Session Drums (L, R).*
***12 channels using any combination of analog inputs, digital inputs and Session Drums.*

1. Recording

The D3200's recorder can record analog or digital audio input sources assigned to mixer channels.
Then you'll use the master track to combine the multiple recorded tracks into a two-track stereo mix.

Bounce recording

Bounce recording is a way to combine the data from multiple tracks down to just one or two tracks.
The D3200 provides a stereo master track that is separate from the channel tracks.
To perform bounce recording, just play back the tracks you want to bounce, and record them onto the master track.
After listening to the Bounced data on the Master Track and verifying that it is correct, simply copy (overwrite) the master track to any of the real tracks or virtual tracks. (→p.132)

1-1. Basic recording

Here's how to record the audio signal that you specified in "1. Inputting audio to the mixer" (→p.42).

(1) Create a new song (→p.35 "1-1. Creating a new song").

(2) Adjust the mixer settings (→p.42 "1. Inputting audio to the mixer").

(3) Apply effects to the audio input (→p.54 "Effects").

(4) Apply EQ to the audio input (→p.45 "Applying EQ to an audio input").

(5) Adjust the pan (→p.45 "3-2. Adjusting the pan").

(6) Check the recording mode.
Access the **REC/PLAY MODE**, **"RecMode"** tab page, and click the **"Normal"** in the **Rec Mode**.

(7) Set the recording level.
You can set the recording level in one of two ways.

- You can record at the optimum level simply by recording at the level you specified in steps (1) through (4). Click the **REC** button to set it to **"PRE"** in the **CH VIEW**, **"Ch View"** tab page.
- If you want to further adjust the channel fader and record at the adjusted level, click the **REC** button to set **"PST"** in the **CH VIEW**, **"Ch View"** tab page.

note *With the **PRE** setting, the channel fader will send the input signal to the master bus, setting the monitor level. With the **PST** setting, the send level to the master bus will be the same as the recording level.*

note *You can also make this setting in the **MIXER**, **SEND (EFF/AUX/REC)**, **"Rec Send"** tab page.*

(8) Move to the location where you want to start recording. (→p.38)

(9) Put the D3200 in record-ready condition.
Press the **REC** key (**REC** and **PLAY** keys will blink).

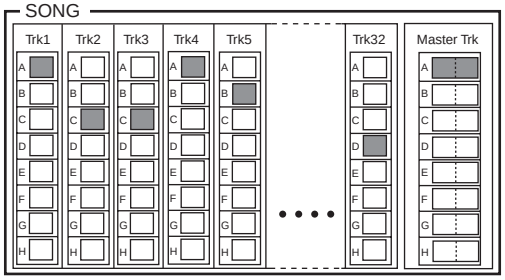
(10) Start recording.
Press the **PLAY** key (**REC** and **PLAY** keys will light). Perform the part to be recorded.

(11) Stop recording.
When you have finished performing, press the **STOP** key (**REC** and **PLAY** keys will go dark). Return to the location at which you started recording, set the **REC/PLAY** key of the tracks you recorded to PLAY (key lit green). Play back, and verify that your performance was recorded correctly.

note *The **ATT** setting in the **"EQ/ATT"** (or **"Ch View"**) tab page is common to recording and playback. If you have turned down **ATT** substantially for recording, you may need to adjust it for playback.*

1-2. Switching virtual tracks

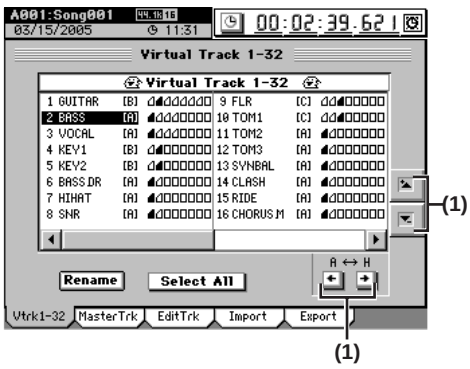
Each song contains up to 32 tracks and one master track (stereo).
In addition, each track has eight "virtual tracks," labelled A–H.
When you record or play back, you can specify which of these virtual tracks A–H will be used.
This means that you can switch between virtual tracks to record multiple "takes" of a performance, and then choose the best take.



(1) Select the desired virtual track.
In the **TRACK**, **"Vtrk1–32"** tab page, click the ▼ / ▲ buttons to select the track that you want to record, and then click the **"V-Level"** ←→ buttons (or the **value dial** or **+/–** keys) to select the virtual track.

*In the case of a 24-bit song, the **"Vtrk1–32"** tab page will be named **"Vtrk1–16."***

note *If a virtual track already contains recorded data, this is graphically indicated by "◢◭" as shown in the illustration.*



(2) Record.
For details, refer to "1-1. Basic recording," steps (2)–(11).

1-3. Overdubbing (Recording additional tracks during playback)

Here's how to record additional performances while you listen to the playback of previously-recorded tracks.

(1) Prepare for recording.
Refer to "1-1. Basic recording" (→p.64), steps (1)–(7).

(2) Select the tracks that you want to play back.
Press the **REC/PLAY** key, and then use the channel keys to select Play mode (key lit green) for the tracks you want to play back.

(3) Select the track(s) that you want to record.
Press the channel key of the tracks you want to record, to set them to Recorded mode (key lit red).

(4) Mute the tracks that you will not be using.
Press the **CH ON** key.
Press the channel keys to turn off (key unlit) the tracks that you are not playing or recording, so that these tracks will be muted.

(5) Record.
Refer to "1-1. Basic recording" (→p.64), steps (8)–(11).

1-4. Trigger recording

Trigger recording is a function that automatically starts recording when the input signal level exceeds a specified value.

Trigger / RecStart
Recording will start when the input signal level exceeds the specified value.

*You will not be able to execute recording if **MIDI Sync** is set to **MTC**.*

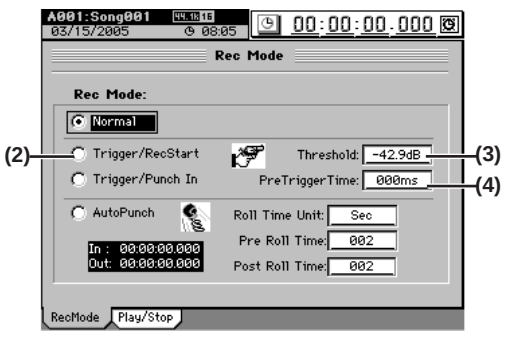
Trigger / Punch In
When the input level exceeds the specified threshold value while the song is playing, the recorder will switch from playback to recording.

(1) Prepare for recording.
Refer to "1-1. Basic recording" (→p.64), steps (1)–(5).

(2) Adjust the settings for trigger recording.
Access the **REC/PLAY MODE**, **"RecMode"** tab page, and click either **"Trigger/RecStart"** or **"Trigger/Punch In"** (the TRIGGER LED will light).

(3) Specify the input signal level ("Threshold") at which recording will begin.

(4) If you want recording to begin from a time slightly earlier than the moment that the input signal exceeds the "Threshold" (i.e., so that the attack is recorded), you can set the "PreTriggerTime."
Trigger recording will cause recording to start when the threshold is exceeded, but the PreTriggerTime lets you prevent the attack of the first note from being cut off.



(5) Press the REC key to put the D3200 in record-ready condition.

Trigger/RecStart
The **REC** key and **PLAY** key will blink.

Trigger/Punch In
The **REC** key will blink.

(6) Begin recording.

Trigger/RecStart
When the input signal exceeds the threshold level, recording and playback will start automatically (**REC** and **PLAY** keys will light).

Trigger/Punch In
Press the **PLAY** key to start playback (the **REC** key will blink, and the **PLAY** key will light). At the location that you want to record, begin performing on your instrument. When the input signal exceeds the threshold level, recording will start automatically (**REC** and **PLAY** keys will light).

(7) When you have finished performing, press the STOP key to stop.
(→p.64 "1-1. Basic recording", step (10))

1-5. Punch-in Recording (Re-recording a specific area)

If you made a mistake in a recorded performance, or are not satisfied with a portion of the performance, you can use "punch-in/out" recording to fix just that portion without having to record the entire part over again. Punch-in/out recording can be done manually or automatically

Punch-in: Switches from the playback mode to the record mode.
Punch-out: Switches from the record mode back to the playback mode.

Manual punch-in/out

Here's how to punch-in and punch-out manually.
During playback, press the **REC** key or an optional PS-1 foot switch to begin recording, and then press the **REC** key, **PLAY** key, or foot switch to stop recording.

(1) Prepare to record.
Refer to "1-1. Basic recording" (→p.64), steps (1)–(8).

(2) Adjust the playback level.
If you want to hear the recorded sound before and after the punch-in/out region, access the **MIXER**, **SOLO/MONITOR**, **"Monitor"** tab page, and click **"Cue"** to turn it to turn it on. Then go to the **"CueLevel"** tab page, and adjust the **"LEVEL"** of the track that you want to re-record (→p.48).

(3) Move the location to a point earlier than the point where you want to start recording. (→p.38)

(4) Press the PLAY key to begin playback (the PLAY key will light).
The song will play back, and you will hear the sound of the playback tracks as well as the sound of the track you will be re-recording.

(5) When you reach the point that you want to re-record, press the REC key. (The REC and PLAY keys will light.)
Recording will begin (manual punch-in), and you can re-record your performance.

(6) When you reach the point at which you want to stop re-recording, press the REC key or the PLAY key. (The REC key will go dark.)
Recording will stop (manual punch-out), and normal playback will resume. By repeating steps (5) and (6), you can re-record more than one section in one pass.

(7) Press the STOP key to stop. (The PLAY key will go dark.)
After you stop recording, move the location to a point earlier than where you began recording, and play back to verify that the re-recording is satisfactory.

Using a foot switch for manual punch-in/out

You can switch between playback and recording by pressing a PS-1 foot switch (sold separately).
This lets you punch-in/out while you perform, or when the D3200 is located at a distance.

(1) Connect a foot switch to the FOOT SWITCH jack.

(2) Access the SYSTEM/MIDI, "Control" tab page, and specify the function of the foot switch.
Click **"PunchIn–Out"** in the **"Function"** to select.

*If you are using the PS-1 foot switch, make sure that **"Polarity"** is set to **"–"** (→p.119).*

(3) Perform manual punch-in/out recording.
Follow the procedure described in "Manual punch-in/out." When doing so, you can press the foot switch at steps (5) and (6) to switch between punch-in and punch-out.

Auto punch-in/out

Here's how to automatically punch-in and punch-out at locations you have specified beforehand.

*You will not be able to execute recording if **MIDI Sync** is set to **MTC**.*

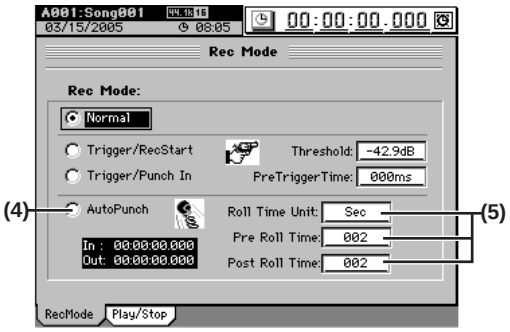
(1) Prepare to record.
Refer to "1-1. Basic recording" (→p.64), steps (1)–(5) and (7).

(2) Set the playback level.
If you want to hear the recorded sound before and after the region you are re-recording, access the **MIXER**, **SOLO/MONITOR**, **"Monitor"** tab page, and click **"Cue"** to turn it on. Then go to the **"CueLevel"** tab page, and adjust the **"LEVEL"** of the track that you want to re-record (→p.48).

(3) Store the location at which you want to start recording in the IN (punch-in) locate point, and store the location at which you want to stop recording in the OUT (punch-out) locate point.
For details on setting the IN and OUT locations, refer to "Assigning locations to the Locate keys" (→p.38).

(4) Access the REC/PLAY MODE, "RecMode" tab page, click the Auto Punch button, and turn on the auto punch-in/out function.
The **AUTO PUNCH** indicator will light.

(5) Specify the playback region before and after recording.
- Set **"Roll Time Unit"** to the desired unit: **"Sec"** (seconds) or **"Meas"** (measures).
- Set **"Pre Roll Time"** to specify the length of playback that will occur before recording begins.
- Set **"Post Roll Time"** to specify the length of playback that will occur after recording ends.



(6) Begin recording.

- When you press the **REC** key, the recorder will move to a location earlier than the punch-in point, as specified by the pre-roll time, and will enter the record-ready state (**REC** key blinking).
- When you press the **PLAY** key, playback will begin. Playback will continue during the pre-roll time, and then recording will occur from the specified punch-in point (IN). (The **REC** and **PLAY** keys will light.)

(7) Stop recording.

- When you reach the punch-out point (OUT), recording will end and playback will resume. (The **REC** key will be dark and the **PLAY** key will be lit.)
- When the post-roll time ends, the recorder will stop.

(8) Verify the content that was recorded.
Move to a location earlier than where you began recording (IN), and play back to verify that the recording is satisfactory.

Loop recording

When using auto punch-in / out recording, you can click the **Loop Play** radio button (in the **Play/Stop Mode** field of the **"Play/Stop"** tab page) so that the IN–OUT region will be recorded repeatedly (loop). When you are finished recording, you can use the Undo / Redo functions to compare different takes, and keep the best one.

(1) Adjust the settings for auto punch-in/out.
Refer to "Auto punch-in / out" (→p.66) steps (1)–(5).

(2) Click the Loop Play radio button to turn it on (highlighted).
The **Loop** indicator will light.

(3) Begin recording.

- When you press the **REC** key, you will move to a point before the specified IN (recording start) location, as set by the pre-roll time, and the D3200 will be in record-ready condition (**REC** key blinking).
- When you press the **PLAY** key, playback will begin (**PLAY** key will light).
  Playback will continue for the pre-roll time, and recording will begin at the IN point. (The **REC** key will light.)
- Recording will end when you reach the OUT point, and playback will continue for the post-roll time. (The **REC** key will go dark.)
- Then you will move to the pre-roll time, and the same process will be repeated.
- To stop, press the **STOP** key at a point outside the recording region (IN–OUT).

(4) Use the Undo/Redo function to compare the takes, and select the best one.

- Press the **UNDO** key to display the **"Undo/Redo"** tab page.
  The **"Undo/Redo"** tab page displays the most recent recording (Level 00) and the previous recordings (Level "loop-recorded takes minus 1") together with the Rec Track (track number).

*Loop recordings appear in the list as **"Record Track,"** just as conventional recordings.*

- In the **"Undo/Redo"** tab page, click the **Undo** button and **Redo** button to select a recorded take. The selected performance will be recalled.

(5) Listen to the recorded performance.

- Press the **PLAY** key to play back, and listen to the recording. If **"Loop Play"** is on, the region between the IN (beginning of recording) and OUT (end of recording) points will continuously play back.
- Repeat this process to select the best performance.

The data in the list lets you go back through the most recent sixteen levels.

1-6. Creating a master track

After applying effects and EQ to each track to create the overall balance of your song, you can then apply effects and EQ to the entire song to make the volume and tone consistent, and record the resulting two-track stereo mix onto the "master track."
The master track data you create here can also be copied to a channel track (→p.69).

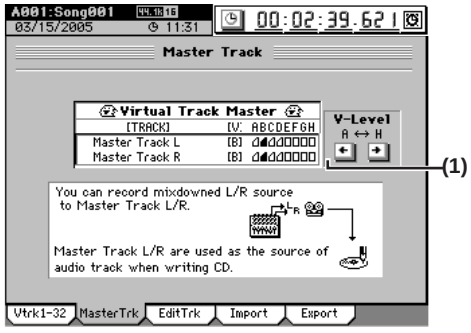
After recording or track editing, you can use the Undo function to return to the state prior to recording or editing (→p.141).

If you recorded on a different virtual track, check the virtual track that is selected after executing Undo.

Mixing down the audio of tracks 1–32 and recording a master track for a 44.1 kHz / 16-bit song

(1) Select the virtual tracks that you want to use in your final mix.

- For each channel track, select the virtual track that you want to include in the mix that will be recorded onto the master track (→p.65).
- Select a virtual track for the master track.



(2) Specify how the master track will be recorded.

- Press the key located above the master track (the key will light red). All channel tracks will automatically be set to Play (key lit green).
- For channels you don't want to record, press the **CH ON** key and then press each channel key to turn it off (key unlit).
- If you have used the Session Drums to create a drum track for your song, the playback of the Session Drums can be mixed in with the other playback tracks when creating the master track. Access the SESSION DRUMS, "DrmsMixer" tab page, and use the radio button to select "Master" as the "Assign" destination.

note *The Session Drums EQ and Send levels can also be set from this page*

(3) Apply insert effects (→p.28).

(4) Apply EQ (→p.46).

(5) Adjust the pan (→p.45).

(6) Apply master effects (→p.29).

(7) Apply a final effect (→p.31).

(8) Apply master EQ (→p.32).

(9) Set the recording mode.
Access the **REC/PLAY MODE**, **"RecMode"** tab page, and click **"Normal"** in **"Rec Mode"** to select.

(10)Adjust the recording level.

- Set the master fader to unity gain (0 dB).
- Play back the song.
- Use the faders to adjust the level of each channel to create the desired volume balance for your song. The sound will be recorded onto the master track at these levels. If AUTOMATION is on, the master track will be recorded using the levels set by any Scene or Event automation.

note *If the sound of the master track is clipping (distorting), lower the master fader.*

(11)Return to the beginning of the song (→p.38).

note *If you are creating an album CD project, the beginning of the master track will be the beginning of the CD track.*

(12)Begin recording.

- Press the **REC** key to enter record-ready condition, and then press the **PLAY** key to begin recording.
- When you are finished recording, press the **STOP** key to stop recording.

(13)Listen to the recorded result.

- Press the master track channel key to set it to **PLAY** (key lit green). All channel tracks will automatically be muted (the channel keys will go dark).
- Move to the beginning of the song, and press the **PLAY** key to hear the playback.
- Press the **STOP** key to stop.

2. Playback

This section explains the basic methods of playback used in the D3200.

2-1. Normal playback

(1) Select the track(s) that you want to play back.
Press the **CH ON** mode key (lit).
Press the channel key for each track that you want to play (key lit).
Press the **REC/PLAY** key (lit).
Press the channel key for each track that you want to play to select Play mode (key lit green).

(2) Move to the location at which you want the playback to start (→p.38).

(3) Press the PLAY key to begin playback (the PLAY key will light).

(4) Apply insert effects (→p.28).

(5) Apply EQ (→p.46).

(6) Adjust the pan (→p.45).

(7) Apply master effects (→p.29).

(8) Apply a final effect (→p.31).

(9) Apply master EQ (→p.32).

(10)Press the STOP key to stop playback (the PLAY key will go dark).

note *In order to play back the master track, you must set the master track channel key to Play (key lit green).*

note *Playback will continue until you press the **STOP** key, even if you pass the end of the audio data that actually exists.*

note *Operation will differ depending on the **Play/Stop Mode** setting (→p.149).*

note *You can use a PS-1 foot switch (sold separately) to start and stop playback (→p.119).*

2-2. Loop playback

Here's how you can repeatedly play back the region between the IN–OUT points of a song. This is a useful way to check the content of that region. You can also use loop playback in conjunction with auto-punch recording (→p.67).

(1) Select the track(s) that you want to play back.
For details, refer to "2-1. Normal playback" step (1), above.

(2) Specify the region (IN–OUT) that you want to loop (→p.38).

(3) Access the REC/PLAY MODE, "Play/Stop" tab page, and click the Loop Play radio button to turn it on (highlighted).

(4) Play back the loop.
When you press the **PLAY** key, playback will start from the IN location, and will repeatedly play the IN–OUT region.

During loop playback, it may take several seconds to move from OUT to IN.

(5) Press the STOP key to stop playback (the PLAY key will go dark).

2-3. Playing back an album CD project

You can use the Album CD Project function to place completed song data in the desired order, and record it to an external DAT, MD, or cassette tape.

i.e. Using the Album CD Project function to play back songs in a specified order and record them on an external recorder

(1) Use the Album CD Project function to specify the songs that you want to play back.
For details, refer to Album CD Project steps (1)–(4) (→p.80).

When using Album CD Project, playback will stop if you move to a different screen.

(2) Connect your external recorder.
Connect your external recorder to the D3200's **MASTER L/R** jacks or **S/P DIF OUT** jack.

(3) Record the output on your external recording device.

- Press the play button to play back the album CD Project, and adjust the recording level on your external recording device.
- Return to the beginning of the album CD Project, start recording on your external recording device, and then press the D3200's play button.

3. Track editing

You can use track editing commands to copy a track, insert blank space, erase a track, delete a track, reverse a track, optimize a track, exchange tracks, expand / compress a track, copy an entire track, exchange two entire tracks, create a fade-in / fade-out, or normalize the level.

note *In some cases, track editing may not be possible if there is insufficient space on the song drive. You will need to allocate enough free space for the track editing operation.*

Registering the edit region

Specify the edit region by storing the appropriate points in the **LOC 1/IN** through **LOC 4/END** keys.

LOC 1/IN key: IN point

LOC 2/OUT key: OUT point

LOC 3/TO key: TO point

LOC 4/END key: END point

Use the counter or the **FF**, **REW** keys to move to the location you want to edit.
Press the **STORE** key, and then press either **LOC 1/IN**, **LOC 2/OUT**, **LOC 3/TO**, or **LOC 4/END** to store the location in that key. The location is stored the moment you press the key.
For details, refer to "Assigning locations to the Locate keys" (→p.38).

note *If you want to specify a location more precisely while viewing the waveform, click the **WAVE** button in one of the editing screens, and use the **Wave** dialog box (→p.128).*

3-1. Track editing procedures

Copy a track (CopyTrk)

This command copies the specified region (IN–OUT) of track data to another location (TO).

- The IN–OUT region can be copied once, or multiple times in succession.
- You can copy data from one track, or from multiple tracks simultaneously.
- By using the clipboard, you can copy track data to a different song.

Here are some ways in which you can use this command.

- Repeatedly copy a phrase of several measures (such as a drum pattern) to create a track that extends the entire length of song.
- Copy the first verse of a song to create the second verse.
- Record a favorite phrase from a track, and copy it to a different track.

Copying tracks within the same song

i.e. Copying the IN–OUT region of track 1 three times to the TO location of track 2

*Select the virtual tracks of the copy-source (**Source**) and copy-destination (**Destination**) before you make settings for this Copy operation.*

(1) Specify the region that you want to copy.
Set the following locations to specify the region for copying.

- Set the IN point to specify the beginning of the region to be copied
- Set the OUT point to specify the end of the region to be copied
- Set the TO point to specify the beginning of the copy-destination

(2) Select "CopyTrk."
In the **TRACK**, **"EditTrk"** tab page, click the **Edit Trk Type** cell. In the **Edit Trk Type** dialog box, click **"Copy Trk"** and click the **OK** button (or press the panel **YES** key).

(3) Select the copy mode.
Click the **Mode** button. In the **Copy Mode** dialog box, select the desired mode and click the **OK** button (or press the panel **YES** key).

OverWrite: The track data existing at the copy-destination will be overwritten.

Insert: The copied data will be inserted; subsequent existing data will be moved toward the end of the song.

(4) Select the copy-source track number.

- Click the popup button of the **Source** cell, and choose track **"1"** in the **Source Track** dialog box. You can also click the cell to select this.
- Check the IN and OUT locations. If you want to set the locations with more precision, click the **Source WAVE** button, and use the **Wave** dialog box (→p.128) to set the location.

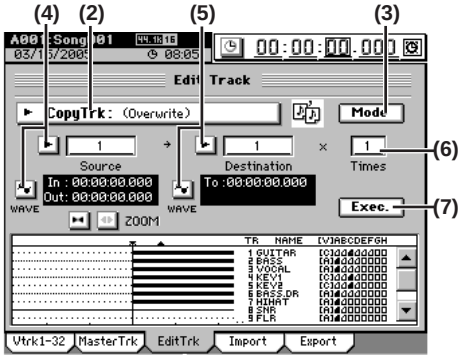
(5) Select the copy-destination track number.

- Click the popup button of the **Destination** cell, and choose track **"2"** in the **Destination Track** dialog box. You can also click the cell to select this.

note *If you specified two or more tracks as the **"Source,"** you must specify the same number of tracks in **"Destination."***

- Verify that the TO location is correct. If you want to set the location with more precision, click the **Destination WAVE** button, and make your settings in the **Wave** dialog box (→p.128).

(6) Specify the number of time that you want to copy the data.
Click the **Times** cell, specify the number of copies as **"3".**



(7) Execute the editing operation.
Click the **Exec.** button. Then in the **CopyTrk** dialog box, click the **Yes** button (or press the panel **YES** key) to execute the operation.
When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

(8) Check the results of the editing operation.
Press the **LOC 3/TO** key, and play back from the TO location to verify that the data was copied correctly.
If you are not satisfied with the results, you can use Undo to return to the previous state. (→p.141)

Using the clipboard to copy data to another song

When you use the clipboard to copy data between tracks of songs that have a different sampling frequency and / or bit depth, the sampling frequency and / or bit depth will be converted automatically. You can specify whether dithering will be performed to make quantization noise less obtrusive when converting 24-bit data to 16-bit data.

If the sampling frequency of the song copied to the clipboard is different from that of the copy-destination song, a certain amount of time will be required for the conversion to be performed.

i.e. Copying the IN–OUT region of track 1 once from the 48 kHz / 24-bit song number 001 to the TO location of track 2 of the 44.1 kHz / 16-bit song number 002

*Before you make these copy settings, verify that the correct virtual tracks are selected for the copy-source (**Source**) and copy-destination (**Destination**).*

(1) Select song 001 (→p.36 "1-3. Selecting a song").

(2) Specify the region that you want to copy.
Set the following locations to specify the region for copying (→p.69).

- Set the IN point to specify the beginning of the region to be copied
- Set the OUT point to specify the end of the region to be copied

(3) Select "CopyTrk."
In the **TRACK**, **"EditTrk"** tab page, click the **Edit Trk Type** cell. In the **Edit Trk Type** dialog box, choose **"CopyTrk"** and click the **OK** button (or press the panel **YES** key).

(4) Select the copy-source track number.

- Click the popup button of the **Source** cell, and choose track **"1"** in the **Source Track** dialog box. You can also click the cell to select this.
- Check the IN and OUT locations. If you want to set the locations with more precision, click the **Source WAVE** button, and use the **Wave** dialog box (→p.128) to set the location.

(5) Select the clipboard as the copy-destination track number.
Click the popup button of the **Destination** cell, and choose track **"Clip"** in the **Destination Track** dialog box. You can also click the cell to select this.

(6) Execute the copy.
Click the **Exec.** button. Then in the **CopyTrk** dialog box, click the **Yes** button (or press the panel **YES** key) to execute the operation.
When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

note *Any data currently in the clipboard will be overwritten.*

(7) Select song 002 (→p.36 "1-3. Selecting a song").

(8) Register the TO location. (→p.69)
Verify that the TO location is correct. If you want to set the location with more precision, click the **Destination WAVE** button, and make your settings in the **Wave** dialog box (→p.128).

(9) Select "CopyTrk."
In the **TRACK**, **"EditTrk"** tab page, click the **Edit Trk Type** cell.
In the **Edit Trk Type** dialog box, choose **"CopyTrk"** and click the **OK** button (or press the panel **YES** key).

(10)Select the copy mode.

Click the **Mode** button. In the **Copy Mode** dialog box, select the desired mode and click the **OK** button (or press the panel **YES** key).

OverWrite: The track data existing at the copy-destination will be overwritten.

Insert: The copied data will be inserted; subsequent existing data will be moved toward the end of the song.

(11)Select the clipboard as the copy-source track number.

Click the popup button of the **Source** cell, and choose track **"Clip1"** in the **Source Track** dialog box. The number indicates the number of tracks in the clipboard. You can also click the cell to select this.

(12)Select the copy-destination track number.

Click the popup button of the **Destination** cell, and choose track **"2"** in the **Destination Track** dialog box. You can also click the cell to select this.

(13)Specify the number of times that the data will be copied.

Set the **Times** cell to **"1".**

note *If you specified two or more tracks as the **"Source,"** you must specify the same number of tracks as the **"Destination."***

(14)Execute the operation.

Click the **Exec.** button to display the **CopyTrk** dialog box. If you want dithering to be performed, click the **Dither** button.

Click the **Yes** button (or press the panel **YES** key) to execute the operation.

When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

(15)Check the results of the editing operation.

Press the **LOC 3/TO** key, and play back from the TO location to verify that the data was copied correctly.

If you are not satisfied with the results, you can use Undo to return to the previous state. (→p.141)

Insert blank space (InsertTrk)

This command inserts blank space into the specified region (IN–OUT) of a recorded track. Track data following the inserted space will be shifted toward the end of the song.

- You can insert space into one or more tracks simultaneously.
- For example, if you want to add a phrase in the middle of a recorded performance, insert a space of the appropriate length, and then record into that area.

i.e. **Inserting blank space into the IN–OUT region of track 1**

*Before you make settings for this operation, check the virtual track of the **Destination** track into which you will insert blank space.*

(1) Specify the region into which you want to insert blank space.

Set the following locations to specify the region for blank space (→p.69).

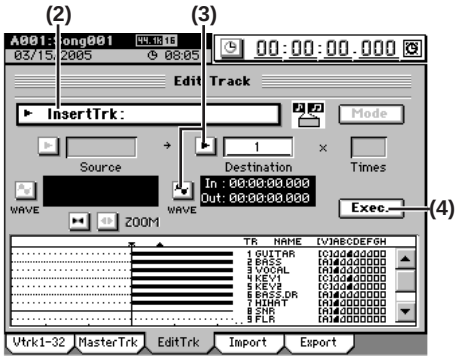
- Set the IN point to specify the beginning of the blank space.
- Set the OUT point to specify the end of the blank space.

(2) Select "InsertTrk."

In the **TRACK**, **"EditTrk"** tab page, click the **Edit Trk Type** cell. In the **Edit Trk Type** dialog box, click **"InsertTrk"** and click the **OK** button (or press the panel **YES** key).

(3) Select the track number into which you want to insert blank space.

- Click the popup button of the **Destination** cell, and choose track **"1"** in the **Destination Track** dialog box. You can also click the cell to select this.
- Check the IN and OUT locations. If you want to set the locations with more precision, click the **Destination WAVE** button, and use the **Wave** dialog box (→p.128) to set the location.



(4) Execute the editing operation.

Click the **Exec.** button. Then in the **InsertTrk** dialog box, click the **Yes** button (or press the panel **YES** key) to execute the operation.

When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

(5) Check the results of the editing operation.

Press the **LOC 1/IN** key, and play back from the IN location to verify that the editing operation has done correctly.

If you are not satisfied with the results, you can use Undo to return to the previous state. (→p.141)

Erase a track (EraseTrk)

This command erases track data from the specified region (IN–OUT) of a track. The region will become blank. Unlike the "Delete Track" command described on the following page, this Erase Track command will not cause the data following the OUT point to move.

- You can erase data from the IN–OUT region of one or more tracks simultaneously.

i.e. Erasing the IN–OUT region of track 1

*Before you make settings for this operation, check the virtual track of the **Destination** track from which you will be erasing data.*

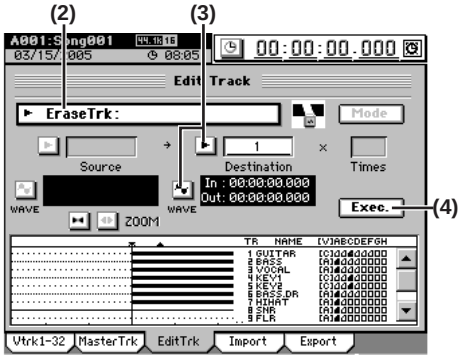
(1) Specify the region whose data you want to erase.
Set the following locations to specify the region for erasing (→p.69).

- Set the IN point to specify the beginning of the region to be erased.
- Set the OUT point to specify the end of the region to be erased.

(2) Select "EraseTrk."
In the **TRACK**, **"EditTrk"** tab page, click the **Edit Trk Type** cell. In the **Edit Trk Type** dialog box, click **"EraseTrk"** and click the **OK** button (or press the panel **YES** key).

(3) Select the track number from which you want to erase data.

- Click the popup button of the **Destination** cell, and choose track **"1"** in the **Destination Track** dialog box. You can also click the cell to select this.
- Check the IN and OUT locations. If you want to set the locations with more precision, click the **Destination WAVE** button, and use the **Wave** dialog box (→p.128) to set the location.



(4) Execute the editing operation.
Click the **Exec.** button. Then in the **EraseTrk** dialog box, click the **Yes** button (or press the panel **YES** key) to execute the operation.
When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

(5) Check the results of the editing operation.
Press the **LOC 1/IN** key, and play back from the IN location to verify that the editing operation has done correctly.
If you are not satisfied with the results, you can use Undo to return to the previous state. (→p.141)

Delete a track (DeleteTrk)

This command deletes the specified region (IN–OUT) of a track. When an area is deleted, the subsequent data (following the OUT point) will be shifted toward the beginning of the song.

- You can delete data from the IN–OUT region of one or more tracks simultaneously.

Deleting track data

i.e. Deleting the IN–OUT region of track 1

*Before you make settings for this operation, check the virtual track of the **Destination** track from which you will be deleting data.*

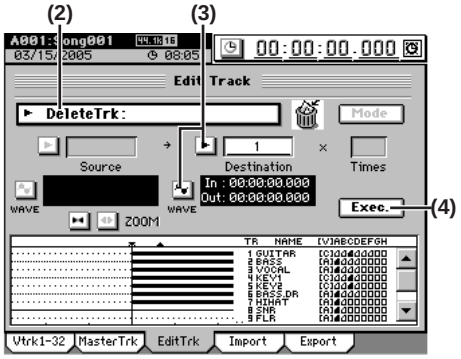
(1) Specify the region whose data you want to delete.
Set the following locations to specify the region for deleting (→p.69).

- Set the IN point to specify the beginning of the region to be deleted.
- Set the OUT point to specify the end of the region to be deleted.

(2) Select "DeleteTrk."
In the **TRACK**, **"EditTrk"** tab page, click the **Edit Trk Type** cell. In the **Edit Trk Type** dialog box, click **"DeleteTrk"** and click the **OK** button (or press the panel **YES** key).

(3) Select the track number from which you want to delete data.

- Click the popup button of the **Destination** cell, and choose track **"1"** in the **Destination Track** dialog box. You can also click the cell to select this.
- Check the IN and OUT locations. If you want to set the locations with more precision, click the **Destination WAVE** button, and use the **Wave** dialog box (→p.128) to set the location.



(4) Execute the editing operation.
Click the **Exec.** button. Then in the **DeleteTrk** dialog box, click the **Yes** button (or press the panel **YES** key) to execute the operation.
When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

(5) Check the results of the editing operation.
Press the **LOC 1/IN** key, and play back from the IN location to verify that the editing operation has done correctly.
If you are not satisfied with the results, you can use Undo to return to the previous state. (→p.141)

Deleting all data of a track

(1) In the TRACK, "Vtrk1–32" tab page, verify that the track you want to delete contains data.

(2) Specify the region whose data you want to delete.
Set the locations as follows (→p.69).

- Set the IN location to the beginning of the song.
- Set the OUT location to the end of the song.

(3) Execute steps (2)–(5) of "Deleting track data," above.

Exchange tracks (SwapTrk)

This command exchanges (swaps) recorded track data between the specified region (IN–OUT) and the corresponding region of another track.

- You can swap the data of one or more tracks simultaneously.

i.e. Swapping the IN–OUT regions of track 1 and track 2.

*Before you execute this operation, check the virtual track of the **Source** and **Destination** tracks that you want to swap.*

(1) Specify the region whose data will be swapped.
Set the following locations to specify the region for swapping (→p.69).

- Set the IN point to specify the beginning of the region to be swapped.
- Set the OUT point to specify the end of the region to be swapped.

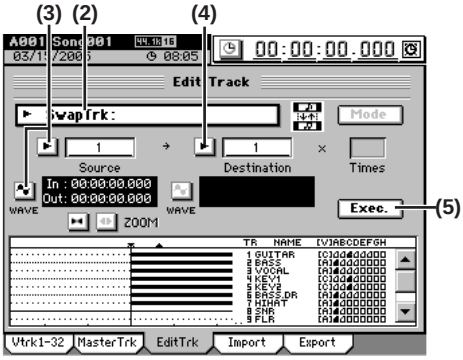
(2) Select "SwapTrk."
In the **TRACK**, **"EditTrk"** tab page, click the **Edit Trk Type** cell. In the **Edit Trk Type** dialog box, click **"SwapTrk"** and click the **OK** button (or press the panel **YES** key).

(3) Select the track numbers whose data you want to swap.

- Click the popup button of the **Source** cell, and choose track **"1"** in the **Source Track** dialog box. You can also click the cell to select this.
- Check the IN and OUT locations. If you want to set the locations with more precision, click the **Destination WAVE** button, and use the **Wave** dialog box (→p.128) to set the location.

(4) Select the swap-destination track number.
Click the popup button of the **Destination** cell, and choose track **"2"** in the **Destination Track** dialog box. You can also click the cell to select this.

*If you specified two or more tracks as the **"Source,"** you must specify the same number of tracks as the **"Destination."***



(5) Execute the editing operation.
Click the **Exec.** button. Then in the **SwapTrk** dialog box, click the **Yes** button (or press the panel **YES** key) to execute the operation.
When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

(6) Check the results of the editing operation.
Press the **LOC 1/IN** key, and play back from the IN location to verify that the editing operation has done correctly.
If you are not satisfied with the results, you can use Undo to return to the previous state. (→p.141)

Reverse a track (ReverseTrk)

This command copies the audio data in the specified region (IN–OUT) of the track to the TO location "in reverse" (i.e., so that the data will play backward).

- The data of the IN–OUT region can be copied one or more times in succession by a single operation.
- You can copy just one track, or multiple tracks of data at the same time.
- The existing track data at the copy-destination (TO location) will be overwritten.

i.e. Copying the IN–OUT region of track 1 three times in reverse to the TO location of track 2

*Select the virtual tracks of the copy-source (**Source**) and copy-destination (**Destination**) before you make settings for this Copy operation.*

(1) Specify the region that you want to copy.
Set the following locations to specify the region for copying (→p.69).

- Set the IN point to specify the beginning of the region to be copied
- Set the OUT point to specify the end of the region to be copied
- Set the TO point to specify the beginning of the copy-destination

(2) Select "ReverseTrk."
In the **TRACK**, **"EditTrk"** tab page, click the **Edit Trk Type** cell. In the **Edit Trk Type** dialog box, click **"ReverseTrk"** and click the **OK** button (or press the panel **YES** key).

(3) Select the track number whose data you want to use as the reverse-source.

- Click the popup button of the **Source** cell, and choose track **"1"** in the **Source Track** dialog box. You can also click the cell to select this.
- Check the IN and OUT locations. If you want to set the locations with more precision, click the **Source WAVE** button, and use the **Wave** dialog box (→p.128) to set the location.

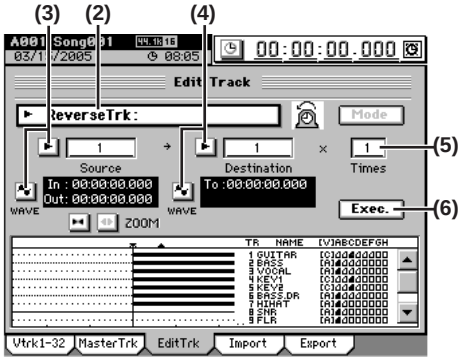
(4) Select the reverse-destination track number.

- Click the popup button of the **Destination** cell, and choose track **"2"** in the **Destination Track** dialog box. You can also click the cell to select this.

*If you specified two or more tracks as the **"Source,"** you must specify the same number of tracks in **"Destination."***

- Verify that the TO location is correct. If you want to set the location with more precision, click the **Destination WAVE** button, and make your settings in the **Wave** dialog box (→p.128).

(5) Specify the number of time that you want to copy the data.
In the **Times** cell, specify the number of copies as **"3".**



(6) Execute the editing operation.
Click the **Exec.** button. Then in the **ReverseTrk** dialog box, click the **Yes** button (or press the panel **YES** key) to execute the operation.
When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

(7) Check the results of the editing operation.
Press the **LOC 3/TO** key, and play back from the TO location to verify that the editing operation has done correctly. If you are not satisfied with the results, you can use Undo to return to the previous state. (→p.141)

note *This editing operation will take a longer time for execution (until the **Completed** indication appears) in proportion to the length of the IN–OUT region you specify.*

Optimizing a track (OptimizeTrk)

This operation optimizes the track data of the region (IN–OUT) you specify. If you have performed numerous edits, overdubbing, and / or punch-in recording in a specific area of a track, you may need to optimize the track to prevent the "Disk too busy" message from appearing

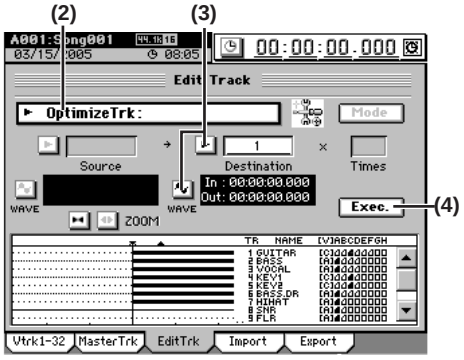
*Before you execute this operation, check the virtual track of the **Destination** track you want to optimize.*

i.e. **Here's how to optimize a specific region of track 1**

(1) Specify the region that you want to optimize.
Set the locations as follows (→p.69).
- Set the IN location to a point slightly earlier than where **"Disk too busy"** message appears.
- Set the OUT location to a point beyond the In location, where the **"Disk too busy"** message no longer appears.

(2) Select "OptimizeTrk."
In the **TRACK**, **"EditTrk"** tab page, click the **Edit Trk Type** cell. In the **Edit Trk Type** dialog box, click **"OptimizeTrk"** and click the **OK** button (or press the panel **YES** key).

(3) Select the track number whose data you want to optimize.
- Select the track that you suspect of containing the data that needs to be optimized (track 1 in this example), click the popup button of the **Destination** cell, and choose track **"1"** in the **Destination Track** dialog box. You can also click the cell to select this.
- Check the IN and OUT locations. If you want to set the locations with more precision, click the **Destination WAVE** button, and use the **Wave** dialog box (→p.128) to set the location.



(4) Execute the editing operation.
Click the **Exec.** button. Then in the **OptimizeTrk** dialog box, click the **Yes** button (or press the panel **YES** key) to execute the operation.
When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

(5) Verify the results of the operation.
Press the **LOC 1/IN** key, and play back from the IN point. If necessary, you can use Undo to return to the state prior to execution (→p.141).

note *The length of the IN–OUT area specified will determine the amount of time it takes to complete the Optimize operation.*

*Even if you have not repeatedly edited or recorded a specific track, the HDD/CD access indicator may stay lit continuously (not blinking) during recording or playback. The **"Disk too busy."** error message may appear in such cases.*
Execute the OptimizeTrk operation with Destination set to All, and the IN–OUT parameters set to the beginning and end of the song.

Expand / compress a track (ExpCmpTrk)

This command expands or compresses the time required to play back the specified region (IN–OUT) of recorded track data to fit the specified region (TO–END) of another track.

- The expanded or compressed data can be created in a different track, while preserving the original data.
- You can specify whether to convert the pitch.
- You can simultaneously convert up to two tracks of data.
- The converted data can be copied one or more times in succession.

This command can be used in ways such as the following.

- To convert drum loops of differing tempos to the same tempo.
- To make a phrase fit within a specified location.

i.e. **Converting the IN–OUT region of track 1 into the length of the TO–END region of track 2 without changing the pitch, and copying it three times starting at the TO location of track 2**

*Before you execute this operation, check the virtual tracks of the expansion/compression **Source** and **Destination**.*

(1) Specify the regions for expansion/compression.
Set the locations as follows (→p.69).
- Set the IN point to the beginning of the source region.
- Set the OUT point to the end of the source region.
- Set the TO point to the beginning of the destination region.
- Set the END point to the end of the destination region.

(2) Select "ExpCmpTrk."
In the **TRACK**, **"EditTrk"** tab page, click the **Edit Trk Type** cell. In the **Edit Trk Type** dialog box, choose **"ExpCmpTrk"** and click the **OK** button (or press the panel **YES** key).

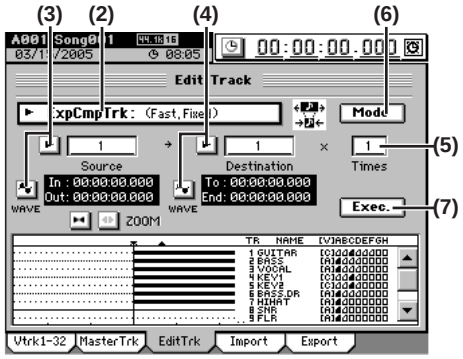
(3) Select the expansion/compression-source track number.
- Click the popup button of the **Source** cell, and choose track **"1"** in the **Source Track** dialog box. You can also click the cell to select this.
- Check the IN and OUT locations. If you want to set the locations with more precision, click the **Source WAVE** button, and use the **Wave** dialog box (→p.128) to set the location.

(4) Select the expansion/compression-destination track number.
- Click the popup button of the **Destination** cell, and choose track **"2"** in the **Destination Track** dialog box. You can also click the cell to select this.

note *If you specified two or more tracks as the **"Source,"** you must specify the same number of tracks in **"Destination."***

- Check the TO and END locations. If you want to set the location more precisely, click the **Destination WAVE** button, and make your settings in the **Wave** dialog box (→p.128).

(5) Specify the number of time that you want to copy the data.
In the **Times** cell, specify the number of copies as **"3".**



(6) Select the expansion/compression mode.
Click the **Mode** button to display the **ExpCmp Mode** dialog box, select the desired mode, and click the **OK** button (or press the panel **YES** key).
For details on the effect of each mode, refer to "ExpCmp-Trk" (→p.131) A5. Mode.
For this example, select **"Fast"** (priority given to processing speed) and **"Fixed"** (pitch remains unchanged).
Then click the **OK** button (or press the panel **YES** key) to return to the **"EditTrk"** tab page.

(7) Execute the editing operation.
Click the **Exec.** button. Then in the **ExpCmpTrk** dialog box, click the **Yes** button (or press the panel **YES** key) to execute the operation.
When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

(8) Check the results of the editing operation.
Press the **LOC 3/TO** key, and play back from the TO location to verify that the editing operation has done correctly.
If you are not satisfied with the results, you can use Undo to return to the previous state. (→p.141)

note *The length of the IN–OUT area specified will determine the amount of time it takes to complete the Expand / Compress operation.*

Copy an entire track / Copying to a Virtual track (CopyWholeTrk)

This command copies an entire recorded track (from the beginning to the end) to another track.

- You can copy one or more tracks simultaneously.
- You can specify the copy-destination virtual track.

For example, you could use this operation if you wanted to copy a track to two or more virtual tracks, and then create variations of the performance in each of the those virtual tracks.

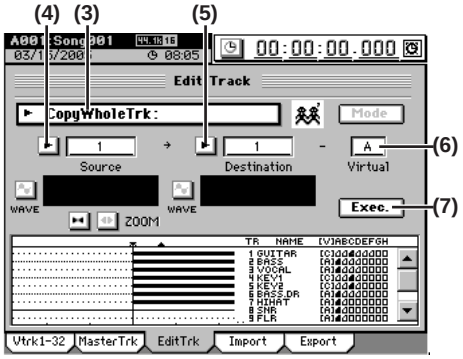
Copying to a virtual track

i.e. **Copying the data of track 1 virtual track "A" to track 2 virtual track "B"**

(1) Select the copy-source virtual track.
In the **TRACK**, **"Vtrk1–32"** tab page, select virtual track **"A"** for track 1.

(2) Verify the copy-destination.
In the **TRACK**, **"Vtrk1–32"** tab page, verify that virtual track **"B"** of track 2 is either empty or contains data you don't mind losing (i.e., data that it is OK to overwrite).

(3) Select "CopyWholeTrk."
In the **TRACK**, **"EditTrk"** tab page, click the **Edit Trk Type** cell. In the **Edit Trk Type** dialog box, choose **"Copy WholeTrk"** and click the **OK** button (or press the panel **YES** key).



(4) Select the copy-source track number.
Click the popup button of the **Source** cell, and choose track **"1"** in the **Source Track** dialog box. You can also click the cell to select this.

(5) Select the copy-destination track number.
Click the popup button of the **Destination** cell, and choose track **"2"** in the **Destination Track** dialog box. You can also click the cell to select this.

note *If you specified two or more tracks as the **"Source,"** you must specify the same number of tracks in **"Destination."***

(6) Select the copy-destination virtual track.
In the **Virtual** cell, select virtual track **"B"**.

(7) Execute the editing operation.
Click the **Exec.** button. Then in the **CopyWholeTrk** dialog box, click the **Yes** button (or press the panel **YES** key) to execute the operation.
When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

(8) In the TRACK, "Vtrk1–32" tab page, select virtual track "B" for track 2.

(9) Check the results of the editing operation.
Play back from the beginning of the song to verify that the copy was performed correctly.
If you are not satisfied with the results, you can use Undo to return to the previous state. (→p.141)

Exchange two entire tracks (SwapWholeTrk)

This command exchanges an entire track of recorded data (from the beginning to the end) with another track.

- You can exchange one or more tracks in a single operation.

This can be used in ways such as the following.

- Rearrange recorded tracks to organize them by type.
- Rearrange data that extends across differing virtual tracks so that each track uses (for example) virtual track **"A."**
- Place two tracks that were recorded separately into adjacent tracks so that they can be paired.

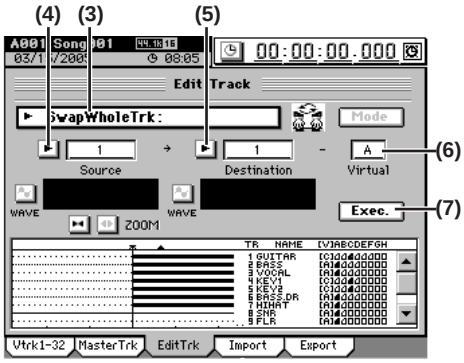
Swapping entire tracks

i.e. Swapping track 1 virtual track "A" with track 2 virtual track "B"

(1) Select the source track that you want to swap.
In the **TRACK**, **"Vtrk1–32"** tab page, select track 1 virtual track **"A."**

(2) Select the destination track that you want to swap.
In the **TRACK**, **"Vtrk1–32"** tab page, verify that track 2 virtual track **"B"** is the track you want to swap.

(3) Select "SwapWholeTrk."
In the **TRACK**, **"EditTrk"** tab page, click the **Edit Trk Type** cell. In the **Edit Trk Type** dialog box, choose **"SwapWholeTrk"** and click the **OK** button (or press the panel **YES** key).



(4) Select the swap-source track number.
Click the popup button of the **Source** cell, and choose track **"1"** in the **Source Track** dialog box. You can also click the cell to select this.

(5) Select the swap-destination track number.
Click the popup button of the **Destination** cell, and choose track **"2"** in the **Destination Track** dialog box. You can also click the cell to select this.

note *If you specified two or more tracks as the **"Source,"** you must specify the same number of tracks in **"Destination."***

(6) Select the swap-destination virtual track.
In the **Virtual** cell, select virtual track **"B"**.

(7) Execute the editing operation.
Click the **Exec.** button. Then in the **SwapWholeTrk** dialog box, click the **Yes** button (or press the panel **YES** key) to execute the operation.
When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

(8) In the TRACK, "Vtrk1–32" tab page, select virtual track "B" for track 2.

(9) Check the results of the editing operation.
Play back from the beginning of the song to verify that the swapping was performed correctly. In the same way, check the **"Source"** track 1 virtual track **"A"** as well.
If you are not satisfied with the results, you can use Undo to return to the previous state. (→p.141)
In this case, return the track 1 virtual track selection to **"A."**

Fade-in / fade-out (FadeTrk)

This command fades-in or fades-out the specified region (IN–OUT) of recorded track data. By using both of these operations, you can create cross-fades.

- You can fade-in or fade-out one or more tracks simultaneously.

Creating a fade-in

i.e. Fading-in the IN–OUT region of track 1

(1) Specify the region that you want to fade-in.
Set the following locations to specify the region where the fade-in will occur (→p.69).

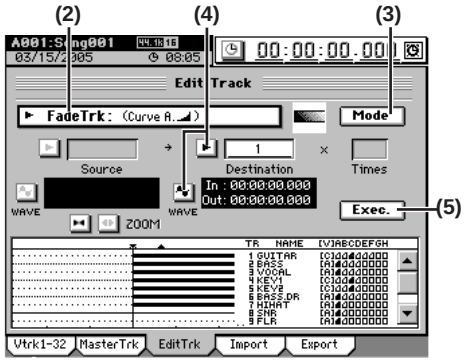
- Set the IN point to specify the beginning of the region where the fade-in will occur.
- Set the OUT point to specify the end of the region where the fade-in will occur.

(2) Select "FadeTrk."
In the **TRACK**, **"EditTrk"** tab page, click the **Edit Trk Type** cell. In the **Edit Trk Type** dialog box, click **"FadeTrk"** and click the **OK** button (or press the panel **YES** key).

(3) Select the fade-in curve.
Click the **Mode** button to display the **Fade Mode** dialog box.
A.B.C: Fade-in curve
D.E.F: Fade-out curve
For details on how these curves differ, refer to **"FadeTrk"** (→p.133).
For this example, select the type **"A"** curve and click the **OK** button (or press the panel **YES** key) to return to the **"EditTrk"** tab page.

(4) Select the track number that you want to fade-in.

- Click the popup button of the **Destination** cell, and choose track **"1"** in the **Destination Track** dialog box. You can also click the cell to select this.
- Check the IN and OUT locations. If you want to set the locations with more precision, click the **Destination WAVE** button, and use the **Wave** dialog box (→p.128) to set the location.



(5) Execute the editing operation.
Click the **Exec.** button. Then in the **FadeTrk** dialog box, click the **Yes** button (or press the panel **YES** key) to execute the operation.
When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

(6) Check the results of the editing operation.
Press the **LOC 1/IN** key, and play back from the IN location to verify that the fade-in performs correctly.
If you are not satisfied with the results, you can use Undo to return to the previous state. (→p.141)

note *The length of the IN–OUT area specified will determine the amount of time it takes to complete the Fade-in operation.*

Creating a fade-out

i.e. Fading-out the IN–OUT region of track 1

(1) Specify the region that you want to fade-out.
Set the following locations to specify the region where the fade-out will occur (→p.69).

- Set the IN point to specify the beginning of the region where the fade-out will occur.
- Set the OUT point to specify the end of the region where the fade-out will occur.

(2) Select "FadeTrk."
In the **TRACK**, **"EditTrk"** tab page, click the **Edit Trk Type** cell. In the **Edit Trk Type** dialog box, click **"FadeTrk"** and click the **OK** button (or press the panel **YES** key).

(3) Select the fade-out curve.
Click the **Mode** button to display the **Fade Mode** dialog box.
A.B.C: Fade-in curve
D.E.F: Fade-out curve
For details on how these curves differ, refer to **"FadeTrk"** (→p.133).
For this example, select the type **"D"** curve and click the **OK** button (or press the panel **YES** key) to return to the **"EditTrk"** tab page.

(4) Select the track number that you want to fade-out.

- Click the popup button of the **Destination** cell, and choose track **"1"** in the **Destination Track** dialog box. You can also click the cell to select this.
- Check the IN and OUT locations. If you want to set the locations with more precision, click the **Destination WAVE** button, and use the **Wave** dialog box (→p.128) to set the location.

(5) Execute the editing operation.
Click the **Exec.** button. Then in the **FadeTrk** dialog box, click the **Yes** button (or press the panel **YES** key) to execute the operation.
When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

(6) Check the results of the editing operation.
Press the **LOC 1/IN** key, and play back from the IN location to verify that the operation has done correctly.
If you are not satisfied with the results, you can use Undo to return to the previous state. (→p.141)

note *The length of the IN–OUT area specified will determine the amount of time it takes to complete the Fade operation.*

Boosting the maximum volume to the specified level (Normalize: NormalizeTrk)

If the recorded level of a track is too low, you can use the Normalize operation to boost the overall level of the specified region (IN–OUT) so that the maximum recorded level will equal the specified level.

- You can normalize one track or simultaneously normalize the data of adjacent tracks.

note *If you boost data that was recorded at an extremely low level, any noise in that region will also be boosted.*

i.e. Normalizing the IN–OUT region of track 1

(1) Specify the region that you want to normalize.
Set the following locations to specify the region for normalize (→p.69).

- Set the IN point to specify the beginning of the region to be normalized.
- Set the OUT point to specify the end of the region to be normalized.

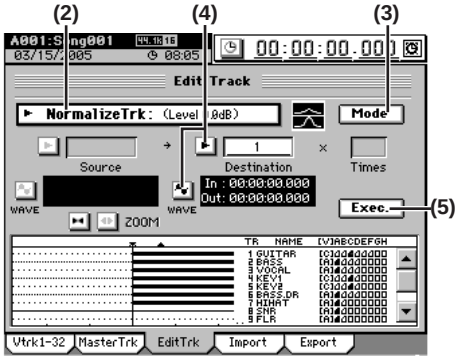
(2) Select "NormalizeTrk."
In the **TRACK**, **"EditTrk"** tab page, click the **Edit Trk Type** cell. In the **Edit Trk Type** dialog box, click **"NormalizeTrk"** and click the **OK** button (or press the panel **YES** key).

(3) Specify the maximum level.
Click the **Mode** button to display the **Normalize Mode** dialog box. Set the **"Normalize Gain Level"** value, and click the **OK** button (or press the panel **YES** key).

(4) Select the track number that you want to normalize.

- Click the popup button of the **Destination** cell, and choose track **"1"** in the **Destination Track** dialog box. You can also click the cell to select this.
- Check the IN and OUT locations. If you want to set the locations with more precision, click the **Destination WAVE** button, and use the **Wave** dialog box (→p.128) to set the location.

(5) Execute the editing operation.
Click the **Exec.** button. Then in the **NormalizeTrk** dialog box, click the **Yes** button (or press the panel **YES** key) to execute the operation.
When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).



(6) Check the results of the editing operation.
Press the **LOC 1/IN** key, and play back from the IN location to verify that the data was normalize correctly.
If you are not satisfied with the results, you can use Undo to return to the previous state. (→p.141)

note *The length of the IN–OUT area specified will determine the amount of time it takes to complete the Normalize operation.*

Eliminating noise (NoiseReduction)

On the desired track, specify a region (IN–OUT) containing only noise which the D3200 will use to analyze and "learn" the noise component. This noise component will then be eliminated from the data in the other region you specify (TO–END) of the same track.

i.e. Eliminate noise from the TO–END region of track 1

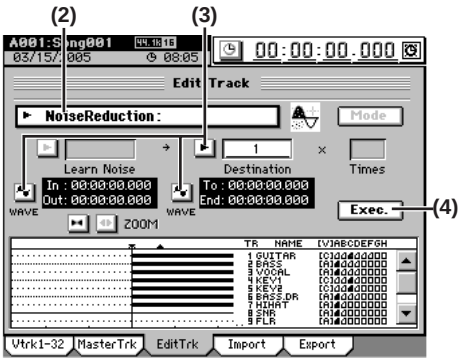
(1) Specify the region containing the noise that you want the D3200 to analyze, and the region from which this noise will be removed.
You will need to set the following locations (→p.69).

- IN location: the beginning of the Learn (noise analysis) region
- OUT location: the end of the Learn (noise analysis) region
- TO location: the beginning of the Destination (noise removal) region
- END location: the end of the Destination (noise removal) region

You must set IN–OUT to a region that contains only noise.

There is a lower limit on the size of the regions you specify. The IN–OUT region must be at least one second long, and the TO–END region must be at least 0.5 seconds long.

(2) Select "NoiseReduction."
In the **TRACK**, **"EditTrk"** tab page, click the **Edit Trk Type** cell. In the **Edit Trk Type** dialog box, select **"NoiseReduction"** and click the **OK** button (or press the panel **YES** key).



(3) Select the number of the track from which you want to remove noise.

- Click the popup button of the **Destination** cell, and choose track **"1"** in the **Destination Track** dialog box. You can also click the cell to select this.
- Check the IN and OUT locations. If you want to set the locations with more precision, click the **Learn Noise WAVE** button, and use the **Wave** dialog box (→p.128) to set the location.
- Check the TO and END locations. If you want to set the locations with more precision, click the **Destination WAVE** button, and use the **Wave** dialog box (→p.128) to set the location.

(4) Execute the editing operation.
Click the **Exec.** button. In the **NoiseReduction** dialog box that appears, click the **Yes** button (or press the panel **YES** key) to execute the operation.
When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

(5) Verify the results of the operation.
Press the **LOC 3/TO** key, and play back from the TO point. If necessary, you can use Undo to return to the state prior to applying the NoiseReduction (→p.134).

note *The length of the IN–OUT area specified will determine the amount of time it takes to complete the Noise Reduction operation.*

Erasing punch noise (ErasePunchNoise)

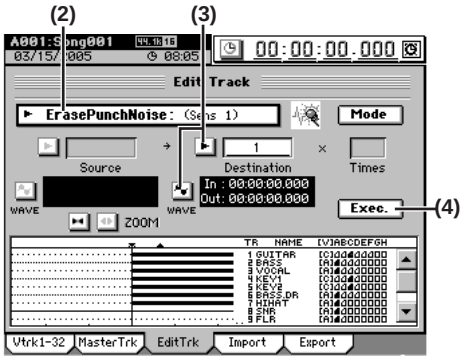
Here's how you can erase the momentary pop of noise that sometimes occurs when punching-in / out.

i.e. Erasing punch noise from the IN–OUT region of track 1

(1) Specify the region where you want to erase punch noise.
Set the locations as follows (→p.69).

- Set the IN location to a point slightly earlier than where the noise occurs.
- Set the OUT location to a point after the noise.

(2) Select "ErasePunchNoise."
In the **TRACK**, **"EditTrk"** tab page, click the **Edit Trk Type** cell. In the **Edit Trk Type** dialog box, select **"ErasePunchNoise"** and click the **OK** button (or press the panel **YES** key).



(3) Select the number of the track from which you want to erase noise.

- Click the popup button of the **Destination** cell, and choose track **"1"** in the **Destination Track** dialog box. You can also click the cell to select this.
- Check the IN and OUT locations. If you want to set the locations with more precision, click the **Destination WAVE** button, and use the **Wave** dialog box (→p.128) to set the location.

(4) Execute the editing operation.
Click the **Exec.** button. Then in the **ErasePunchNoise** dialog box, click the **Yes** button (or press the panel **YES** key) to execute the operation.
When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

(5) Check the results of the editing operation.
Press the **LOC 1/IN** key, and play back from the IN location to verify that the Erasing punch noise correctly.
If you are not satisfied with the results, you can use Undo to return to the previous state. (→p.141)

*If this does not erase the noise, use Undo to return to the previous state, click the **Mode** button, and raise the "**ErasePunchNoise Sens**" value slightly (→p.134).*

note *The length of the IN–OUT area specified will determine the amount of time it takes to complete the ErasePunchNoise operation.*

Erase a silent region (EraseSilence)

i.e. **Erasing regions of silent audio data from the IN–OUT region of track 1, converting them to usable space on the hard drive**

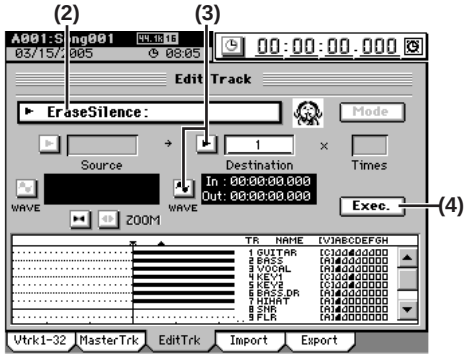
(1) Specify the region of silence you want to erase.
Set the locations as follows (→p.69).

- Set the IN location to a point slightly earlier than the region of silence that you want to erase.
- Set the OUT location to the point after the region of silence.

(2) Select "EraseSilence."
In the **TRACK**, **"EditTrk"** tab page, click the **Edit Trk Type** cell. In the **Edit Trk Type** dialog box, select **"EraseSilence"** and click the **OK** button (or press the panel **YES** key).

(3) Select the number of the track from which you want to erase silence.

- Click the popup button of the **Destination** cell, and choose track **"1"** in the **Destination Track** dialog box. You can also click the cell to select this.
- Check the IN and OUT locations. If you want to set the locations with more precision, click the **Destination WAVE** button, and use the **Wave** dialog box (→p.128) to set the location.



(4) Execute the editing operation.
Click the **Exec.** button. Then in the **EraseSilence** dialog box, click the **Yes** button (or press the panel **YES** key) to execute the operation.
When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

(5) Check the results of the editing operation.
Press the **LOC 1/IN** key, and play back from the IN location to verify that the Erase a silent region correctly.
If you are not satisfied with the results, you can use Undo to return to the previous state. (→p.141)

note *The length of the IN–OUT area specified will determine the amount of time it takes to complete the EraseSilence operation.*

4. Naming a track

You can assign a name to each track.
When you create a new song, the track name will be **"No Name."**
We recommend that you rename the track so that you can remember which part is recorded on which track.

(1) Use the TRACK, "Vtrk1–32" tab page to select the track that you want to rename.

(2) Click the Rename button.

(3) Edit the name in the Rename dialog box.
For details, refer to "1-2. Renaming a song" (→p.36).

CD

You can use the internal disc drive to create an original CD from any of your songs that have been mixed down to the master tracks.
There are two ways to create a CD.

Track At Once
With this method, songs are written to CD individually, one at a time.

Disc At Once (Album CD Project)
With this method, you can arrange your completed songs in the desired playback order, and write all songs to the CD in one operation.

You can also import track data from an audio CD into the clipboard or the PC drive (the "Ripping" function).

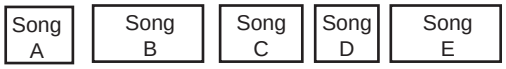
1. Track At Once

With this method, songs are written to the CD one at a time. A two-second gap will automatically be added between songs.
In order to play back the completed CD, you must finalize the disc.

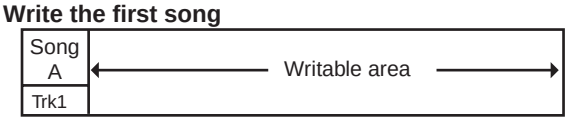
No additional songs can be written to a disc once it has been finalized.

note *Since some audio CD players are unable to play CD-RW discs, we recommend that you use CD-R discs.*

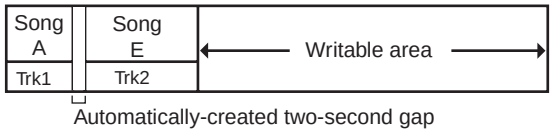
Songs you have created



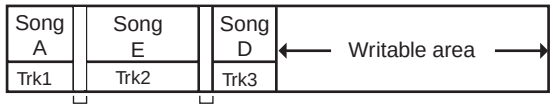
Write the first song



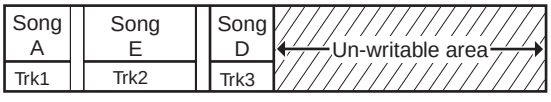
Write the second song



Write the third song



Finalize



(1) Create the master track(s) for the songs you want to write to the CD (→p.67 "1-6. Creating a master track").

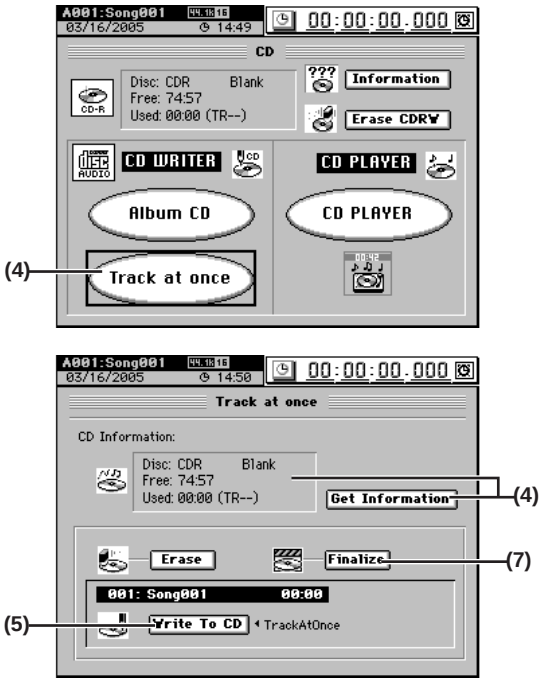
(2) Insert a disc into the CD-R/RW drive.
Use a blank disc or a disc that has not been finalized.

(3) Select the song that you want to write to the disc (→p.36).

note *In order for a song to be written to CD, it must already have been mixed down to the master track*

(4) Press the CD key, click the Track at Once button in the screen to access the Track at Once dialog box, and then click the Get Information button.
The **"CD Information"** area will show either **"Blank Disc"** or the CD track number(s).

Make sure that **"Free"** shows a duration that is longer than the song you want to write.



(5) Write the song.

- Click the **Write To CD** button to display the **WriteToCD** dialog box.

- Select the writing speed.

You must use a disc that supports the selected writing speed.

- A message of **"Obey Copyright Rules"** will appear. Read the owner's manual section "COPYRIGHT WARNING" (→p.iii), and click the **Yes** button (or press the panel **YES** key) if you accept the terms.

note *If the selected song is 24-bit, click the **Dither** button to turn it on if you want dithering to be performed.*

- The D3200 will begin creating an image file.

note *The data will be written to CD as a 44.1 kHz song. If you select a song whose sampling rate is other than 44.1 kHz, the data must be converted, and a certain amount of time will be required for the conversion to be performed before the song appears in the track list.*

note *You can abort creation of the image file by clicking the **Cancel** button.*

- When the image file has been created, the D3200 will begin writing it to disc.
- When writing is completed, the display will indicate **"Completed."** If you want to create another disc with the same data, click the **Yes** button (or press the panel **YES** key). Otherwise, click the **No** button (or press the panel **NO** key) to proceed to the next step.

note *If you create another disc with the same data, the process will take less time since the image file has already been created.*

(6) If you want to write another song to the CD, repeat steps (2) through (5).
Each additional song will be written to CD following the end of the previously written song(s) on the disc.

(7) Finalize the disc.
When you are finished writing songs to this CD, and want to be able to play the disc on an audio CD player, click the **Finalize** button to finalize the disc. A message will ask you for confirmation. If you are sure you want to finalize the disc, click the **Yes** button (or press the panel **YES** key).

note *Once a disc has been finalized, no further songs can be added to it. In other words, you should finalize a disc only after you have written all the songs that you intend to write to it.*

(8) When finalization is completed, the CD-R/RW drive tray will open.
The LCD screen will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key) to return to the **CD** page.

(9) Check the CD by playing it on an audio CD player.
Play the CD on an audio CD player to verify that your audio CD was created correctly.

2. Disc At Once

2-1. Album CD Project

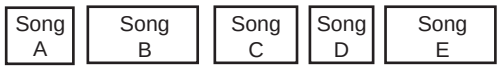
If you use Album CD Project to create a CD, you can specify the amount of silence (blank space) between each track, and assign marks for each song to specify the beginning of each track.
In addition, since this method writes the CD using Disc At Once, the audio CD you create can be used as a master CD for pressing.
You can create one Album CD Project for each song drive, and can also back up the data to CD-R/RW (→p.83).

If you use Album CD Project to write a disc, no additional data can be written to that disc.

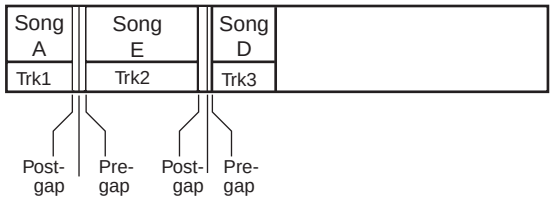
When you create an Album CD Project, new audio data for writing will be created; this will occupy additional hard disk space.

Even if you delete the original songs, the Album CD Project audio data will not be deleted.

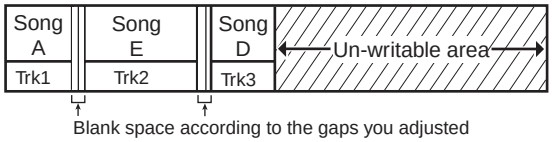
Songs you have created



Select the songs, specify their order, and adjust the gaps



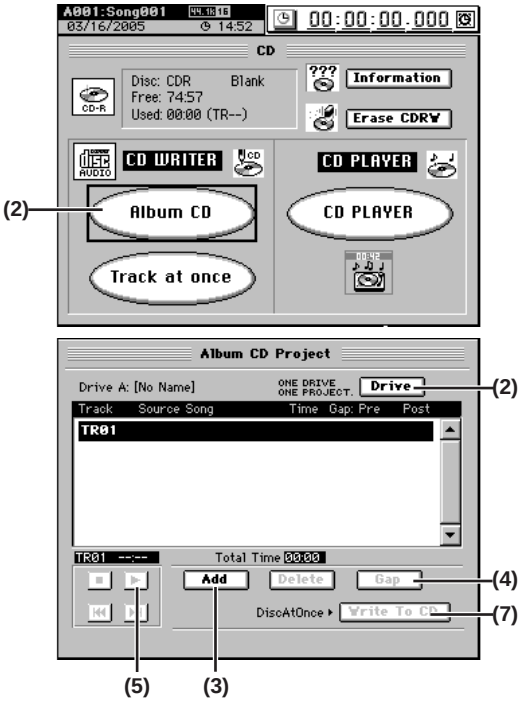
Write all songs at once



(1) Collect all the songs you want to use for the Album CD Project into a single song drive (→p.41).

(2) Select the song drive.
Press the **CD** key, click the **Album CD** button in the screen to access the **Album CD Project** dialog box, click the **Drive** button, select the song drive that contains the song you want to write, and click the and click the **OK** button (or press the panel **YES** key) to confirm.

(3) Assign your songs to the Album CD Project track list in the same order that you want them to appear on the finished CD.



- Select (highlight) TR01, and click the **Add** button to display the **Add TR** dialog box.
- Select the first track of the CD (it will become highlighted), and click the **OK** button (or press the panel **YES** key). The display will ask **"Are You Sure?"**, so click the **Yes** button (or press the panel **YES** key).

note *If the selected song is 24-bit, click the **Dither** button to turn it on if you want dithering to be performed.*

note *The data will be written to CD as a 44.1 kHz song. If you select a song whose sampling rate is other than 44.1 kHz, the data must be converted, and a certain amount of time will be required for the conversion to be performed before the song appears in the track list.*

- The display will indicate **"Completed,"** so click the **OK** button (or press the panel **YES** key).
- In the same way, specify the songs for TR02 and following.

note *You cannot select a song for which a master track has not been created.*

You cannot select songs from a different song drive.

(4) Specify the size of the gaps between each track.
Click the **Gap** button, specify the pre-gap and post-gap, and click the **OK** button (or press the panel **YES** key). Use the **Sec** cell to specify the gap in terms of seconds, or the **Frm** cell to specify the gap in terms of frames (one second = 75 frames).
You can set the gaps independently for each song.

PreGapTime: The period of silence before the song.
PostGapTime: The period of silence after the song.

note *By default, the pre-gap is two seconds, and the post-gap is zero seconds. However, the pre-gap for the first song is zero seconds, and this cannot be changed.*

note *For a song that fades-out, you can reduce the gaps to avoid a unwanted sense of waiting between songs.*

(5) Audition the Album CD Project.
Click the ► button (or press **PLAY** key) in the screen to play back the album project. Listen to it through your headphones or monitor system.
The album project will be played back exactly as it will sound when written to the CD.

(6) Insert a disc into the CD-R/RW drive.
You must use a blank disc.

(7) Write the album to disc.

- Click the **Write To CD** button to display the **WriteToCD** dialog box.

- Select the writing speed.

You must select a writing speed that the CD media you are using can support.

- A message of **"Obey Copyright Rules"** will appear. Read the owner's manual section "COPYRIGHT WARNING" (→p.iii), and click the **Yes** button (or press the panel **YES** key) if you accept the terms. The D3200 will begin creating an image file.

note *You can abort creation of the image file by clicking the **Cancel** button (or press the panel **NO** key).*

- When the image file has been created, the D3200 will begin writing it to disc.

You cannot abort this writing operation.

- The disc will automatically be finalized.
- When finalization has been completed, the **"Write Another CD?"** message will appear.

- If you want to create another disc with the same data, click the **Yes** button (or press the panel **YES** key). Otherwise, click the **No** button (or press the panel **NO** key).

note *If you create another disc with the same data, the process will take less time since the image file has already been created.*

(8) Check the CD by playing it back on an audio CD player.
Play back the CD on an audio CD player to verify that your audio CD was created correctly.
During playback, the gaps between songs will be displayed as negative track times.

2-2. Creating a live CD

If you have recorded a single continuous performance, such as a live concert performance that contains individual songs, you can create a "live CD" recording. By inserting CD track markers into the performance, the entire CD can be played back as a continuous performance with no gaps between the individual songs, just as it was recorded. However, the benefit of creating a live CD using this method is that you can also access the songs individually, just as you would on a regular CD.

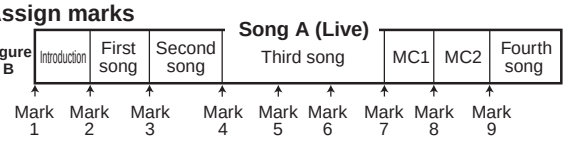
i.e. Assigning a track index to each of the individual songs recorded as part of one continuous live performance on song A (figure A), to create a live CD in which there are no gaps between tracks, and the song or dialog starts at the beginning of each track

Song you already created

Figure A

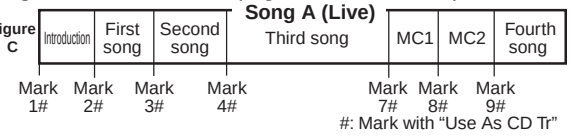
Assign marks

Figure B



Register Use As CD Tr (register marks with #)

Figure C



Load into the Album CD Project track list

Figure D

Introduction	First song	Second song	Third song	MC1	MC2	Fourth song
TR01	TR02	TR03	TR04	TR05	TR06	TR07

Delete unwanted tracks (TR01, TR06), and write the song

Figure E

First song	Second song	Third song	MC1	Fourth song
TR01	TR02	TR03	TR04	TR05

(1) Select the song that you want to make into a live CD (→p.36). [Figure A]
Create a master track for this song.

(2) Assign marks at appropriate locations within the song (→p.38). [Figure B]

(3) Assign "Use As CD Tr" marks. [Figure C]

- Access the **MARK**, **"EditMark"** tab page, assign a mark at each location that you want to use as the beginning of a track, and click the **Use As CD Tr** button to add a **"Use As CD Tr"** mark.

*The **"Use As CD Tr"** mark will always be added to mark 001, and this cannot be deleted. (The track at mark 001 can be deleted from the Album CD Project, if desired.)*

(4) Press the CD key, and click the Album CD button in the screen to open the Album CD Project dialog box.

(5) In the track list, select the song that you want to write [Figure D].
Click the **Add** button, select song A, and click the **OK** button (or press the panel **YES** key).
The display will ask **"Are You Sure?"** Click the **Yes** button (or press the panel **YES** key).

*If the selected song is 24-bit, click the **Dither** button to turn it on if you want dithering to be performed.*

The data will be written to CD as a 44.1 kHz song. If you select a song whose sampling rate is other than 44.1 kHz, the data must be converted, and a certain amount of time will be required for the conversion to be performed before the song appears in the track list.

The display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key) to return to the Album CD Project screen.
The locations at which you assigned the **"Use As CD Tr"** marks will divide the song into tracks in the track list.

(6) Edit the album CD project. [Figure E]

- Delete unwanted tracks.
- The pre-gap and post-gap will both be zero between tracks to which you assigned the **"Use As CD Tr"** mark, but you may edit this if you wish.

(7) Play back the album CD project to check it.
(→p.80 "2-1. Album CD Project", step (5))

(8) Perform steps (6)–(8) of "2-1. Album CD Project."

3. Ripping a CD

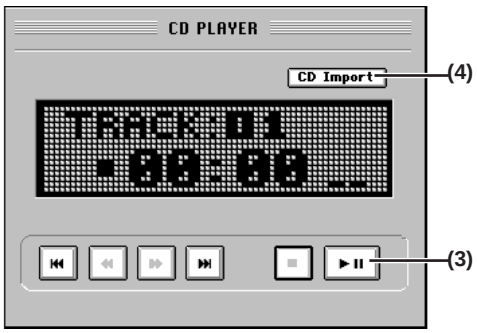
In addition to playing back an audio CD in its CD-R/RW drive, the D3200 can "rip" digital audio data directly from an audio CD.

i.e. Ripping (importing) digital audio data from track 3 of an audio CD into the clipboard

(1) Insert the audio CD into the CD-R/RW drive.

(2) Press the CD key, and then click the CD PLAYER button in the screen to access the CD PLAYER page.

(3) Click the skip button to make "TR3" appear in the CD PLAYER display area.



(4) Click the CD Import button to access the CD Import dialog box.
Chose **"Clip"** as the ripping destination so that the display indicates **"CD Import: TR3-> Clip2."**

(5) A message of "Obey Copyright Rules" will appear. Carefully read the owner's manual section entitled "COPYRIGHT WARNING" (→p.iii), and if you accept the terms, click the Yes button (or press the panel YES key) to begin ripping.

(6) When ripping is completed, the display will indicate "Completed", click the OK button (or press the panel YES key).

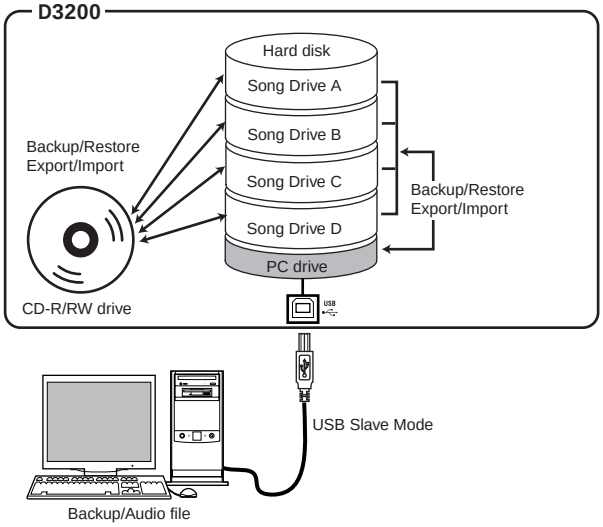
This process will take longer in proportion to the amount of data you're ripping.

Data

Whenever you switch songs or turn off the power, the D3200's Auto Save function will automatically save (to the hard drive) the songs or parameters that you recorded or edited.
This means that you do not need to perform any particular operations to save your data as long as you power -off using the procedure described on page 2. (→p.42 "Saving a song").

note *You do need to save the effect settings if you have edited effect programs.*

The data saving operations explained in this section are used when you have created important data on the D3200 that you want to save on a CD-R / RW or your computer, or when you want to delete data from the hard disk to obtain more free space.
Depending on the type of data, you can use either Backup or Export to save it.
Data you save in this way can be used again by restoring or importing it.



For details on the file names, restrictions, and filename extensions of the data that you can backup / restore or export / import, refer to "More about drives and files" (→p.171).

note *If you want to save data on your computer, first store the data in the PC drive of the D3200's hard disk, and then save that data on your computer.*

The following table shows the data you can save.

Data save/load methods and types of file that can be saved

Save method		File types
Backup/ Restore	**1Song**	Data for one song + User data
	All Data	All song data on the selected song drive + Album CD project + User Data
	User Data	User effect programs + User EQ libraries + mixer setup
Export/Import		Audio file data (WAV format)

1. Backing up and restoring

1-1. Backing up

You can back up data to CD-R / RW or the PC drive.
The following data can be backed up.

1Song
Back up one song from the selected drive and the user data.

All Data
Back up all songs from the selected drive, the user data, and the album CD project.

User Data
Back up only the user data (user effect programs, user EQ libraries, mixer setup).

A backed-up song cannot be played back directly. In order to play the song, you must restore it.

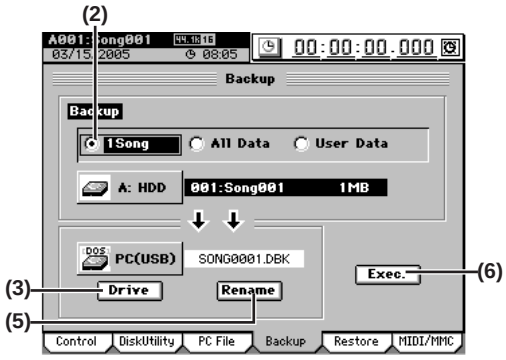
Backing up 1 Song

(1) Select the song that you want to back up (→p.36).

(2) Select the type of backup.
In the **SYSTEM/MIDI**, **"Backup"** tab page, click the **"1Song"** radio button.

(3) Select the backup-destination drive.
Click the **Drive** button to open the **Select Drive** dialog box. Click either the **"CD"** or **"PC"** radio button, and then click the **Yes** button (or press the panel **YES** key).

(4) If you are backing-up to CD-R/RW, insert a disc in the CD-R/RW drive.
Use a blank disc or an ISO9660 format disc that has not been finalized.



(5) Edit the file name.
A file name is assigned automatically (→p.172).
If you want to edit the file name, click the **Rename** button.
Use the **Rename** dialog box to edit the file name (→p.36).

note *If the backup-destination already contains an identically-named file, you will be unable to execute the backup. Please rename the file.*

(6) Execute the backup.

When you click the **Exec.** button, the **Backup** confirmation dialog box will appear.

When backing up to CD-R/RW

The screen will indicate the space required for the backup. If the data will not fit on one disc, you will need to prepare the appropriate number of discs.

- Use the **WriteSpeed** cell to select the writing speed.
- If you want to make it impossible to write any further data on this disc when you are done backing up, check the **Finalize CD** check box.
- Click the **Yes** button (or press the panel **YES** key) to begin the backup.
- The D3200 will begin creating an image file.

note *You can click the **Cancel** button (or press the panel **NO** key) to abort creation of the image file.*

- When the image file has been created, writing to the disc will begin.
- If more than one disc is required, a dialog box will request the next disc when one disc fills up. Insert the next disc, and click the **OK** button (or press the panel **YES** key).
- When the backup is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

note *When backing up to disc, the written data is automatically compared to ensure that an invalid backup disc is not created.*

When backing up to the PC drive

The screen will indicate the space required for the backup. Click the **Yes** button (or press the panel **YES** key) to begin the backup.

When the display indicates **"Completed,"** click the **OK** button (or press the panel **YES** key). This completes the backup.

You cannot back up to the PC drive if the size of the backup is larger than the free space on the PC drive. Change the backup-destination to CD-R/RW.

Backing up All Data

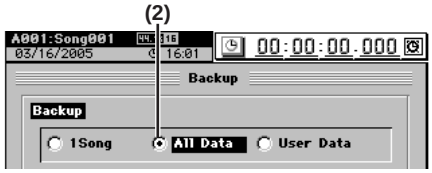
(1) Select the song drive that you want to back up.

Press the **SONG** key, then click the list button in the song page, and click the **Drive** button in the **Select Song** dialog box.

In the **Select Drive** dialog box, select the drive and click the **OK** button (or press the panel **YES** key).

(2) Select the type of backup.

In the **SYSTEM/MIDI**, **"Backup"** tab page, click the **"All Data"** radio button.



(3) Select the backup-destination drive.

Click the **Drive** button to open the **Select Drive** dialog box. Click either the **"CD"** or **"PC"** radio button, and then click the **Yes** button (or press the panel **YES** key).

(4) If you are backing-up to CD-R/RW, insert a disc in the CD-R/RW drive.

Use a blank disc or an ISO9660 format disc that has not been finalized.

(5) Edit the file name.

A file name is assigned automatically (→p.172).

If you want to edit the file name, click the **Rename** button.

Use the **Rename** dialog box to edit the file name (→p.36).

note *If the backup-destination already contains an identically-named file, you will be unable to execute the backup. Please rename the file.*

(6) Execute the backup.

Refer to the preceding section "Backing up 1Song," step (6).

Backing up User Data

note *The **"1Song"** or **"All Data"** backup operations also back up User Data.*

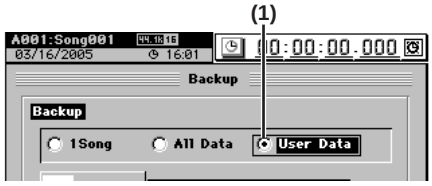
(1) Select the type of backup.

In the **SYSTEM/MIDI**, **"Backup"** tab page, click the **"User Data"** radio button.

(2) Select the backup-destination drive.

Click the **Drive** button to open the **Select Drive** dialog box. Click either the **"CD"** or **"PC"** radio button, and then click the **Yes** button (or press the panel **YES** key).

(3) If you are backing-up to CD-R/RW, insert a disc in the CD-R/RW drive.



(4) Edit the file name.

A file name is assigned automatically (→p.172).

If you want to edit the file name, click the **Rename** button.

Use the **Rename** dialog box to edit the file name (→p.36).

note *If the backup-destination already contains an identically-named file, you will be unable to execute the backup. Please rename the file.*

(5) Execute the backup.

Refer to "Backing up 1 Song," step (6).

1-2. Restoring backed-up data

Here's how to restore previously backed-up data.
When backed-up song data is restored into the D3200, it will once again be playable.

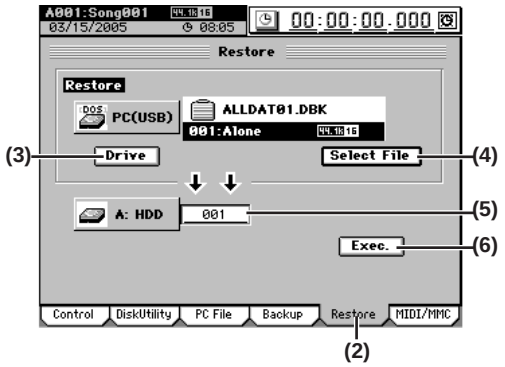
(1) Select the restore-destination drive (→p.36).
If you are restoring song data or an album CD project, select the restore-destination song drive.

(2) Select "Restore."
Access the **SYSTEM/MIDI**, **"Restore"** tab page.

(3) Select the restore-source drive.
Click the **Drive** button to open the **Select Drive** dialog box, select either **"CD"** or **"PC,"** and click the **Yes** button (or press the panel **YES** key).
If you selected **"CD,"** insert the backup disc into the CD-R/RW drive.

(4) Select the restore-source file.
Click the **Select File** button to open the **Select Restore Data File** dialog box.
Folders will be created depending on the type of backup. Open the folder and select the data file you want to restore.
For details on the icons that are displayed, refer to "Loading" (→p.173).

- From the file list, select the folder that contains the data file you want to restore, and click the **Open** button. If you decide to select a different folder, click the **Close** button to return to the next higher level.
- From the file list, select the data file that you want to restore, and click the **OK** button (or press the panel **YES** key).
- If you want to restore all files in the folder as a single operation, click the **Select All** button.



(5) Select the restore-destination for the file(s) you are restoring.

When restoring song data

- In the restore-destination cell, specify a song number.
- When you restore, the restored song will be inserted at the specified song number of the current drive. The song numbers of other songs currently in the D3200 that occur following the restore-destination song number will be increased by one.

When restoring an album CD project

- Since the project will be restored to the current drive, you do not need to specify the restore-destination.
- When you restore, the album CD project in the current drive will be overwritten.

When restoring other data files

- Since these files are common to all song drives, you do not need to specify the restore-destination.
- When you restore, the existing data files will be overwritten.

When restoring all data files in a folder at once

- You do not need to specify the restore-destination.
- When you restore, the song data will be written following the songs on the current drive, and other data will be overwritten.

(6) Execute the restore.
Click the **Exec.** button. In the confirmation dialog box, click the **Yes** button (or press the panel **YES** key) to execute. If you click the **No** button (or press the panel **NO** key), the restore operation will be aborted.

If you are restoring a backup that spanned more than one disc, the D3200 will ask you for the next disc when it has finished reading one disc. Insert the next disc and click the **Yes** button (or press the panel **YES** key). Insert the discs in the order in which they were written during the backup operation.

(7) When the restore operation is finished, the display will indicate "Completed." Click the OK button (or press the panel YES key).

note *When restoring from the PC drive, the song effect program data will not be restored unless it has the same name as the song that is being restored.*

2. Audio files

Audio files saved on CD-R/RW or the PC drive can be imported (loaded) into the D3200 and pasted into a song track. Also, any audio track data that you copied to the D3200's clipboard can be exported (written) to disc or the PC drive as an audio file.

WAV audio files of the following formats are supported.

Sampling frequency:	44.1 kHz, 48 kHz, *96 kHz
Bit depth:	16-bit, 24-bit
Number of channels:	1 (monaural), 2 (stereo)

* Only Import

2-1. Importing an audio file

Here's how to load an audio file from CD-R/RW or the PC drive.

note *You can use the Undo function to return to the state prior to execution.*

note *If you want to import an audio file from your computer, connect a USB cable, copy the audio file to the PC drive of the D3200, and then perform the procedure described below (→p.93).*

note *If the sampling frequency and bit depth of the audio file differs from that of the import-destination song, the data will be converted automatically. You can choose to perform dithering at this time.*

Importing an audio track into the beginning of a track

i.e. **Importing a 44.1 kHz/24-bit stereo audio file named "D3200_ST.WAV" from CD, and loading it into the beginning of tracks 1 and 2 of a 44.1 kHz/16-bit song**

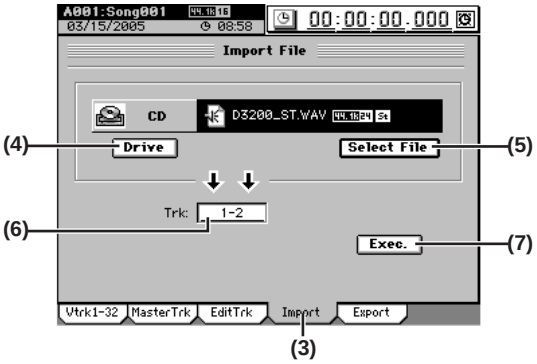
(1) Insert the disc containing the audio file into the CD-R/RW drive.

(2) Select the song into which you want to import the audio file. (→p.36 "1-3. Selecting a song")

(3) Select the Import command.
Access the **TRACK**, **"Import"** tab page.

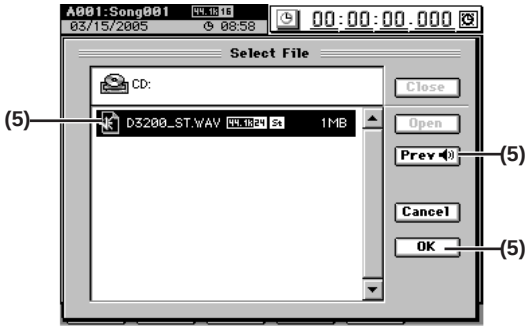
(4) Select the import-source drive.

- Click the **Drive** button to open the **Select Drive** dialog box.
- Select **"CD"** and click the **Yes** button (or press the panel **YES** key).



(5) Select the audio file that you want to import.

- Click the **Select File** button to open the **Select File** dialog box.
- You can preview the first few seconds of the selected audio file by clicking the **Prev** button.
- Select **"D3200_ST.WAV"** and click the **OK** button (or press the panel **YES** key).



(6) Select the import-destination track number.
In the **"Import"** tab page, select tracks **"1-2"** in the **Trk** cell.

(7) Execute the import.

- Click the **Exec.** button to open the **Import File** dialog box.
- Since the import-source audio file has a different bit depth than the import-destination song, click the **Dither** button so that dithering will be performed.
- Click the **Yes** button (or press the panel **YES** key) to execute the import.
- When the operation is finished, the display will indicate **"Completed."** Click the **Yes** button (or press the panel **YES** key).

The length of time required for this operation to be completed will increase in proportion to the size of the file being imported.

(8) Change the location to the beginning of the song, and verify that the data was imported correctly.

Importing an audio file into the middle of a track

i.e. Importing a 44.1 kHz/16-bit stereo audio file named "D3200_ST.WAV" from the PC drive, and loading it into the TO location (the location stored in the LOC 3 key) of tracks 1 and 2 of a 44.1 kHz/16-bit song

(1) Select the song into which you want to import the audio file. (→p.36 "1-3. Selecting a song")

(2) Select the Import command.
Access the **TRACK**, **"Import"** tab page.

(3) Select the import-source drive.
- Click the **Drive** button to open the **Select Drive** dialog box.
- Select **"PC"** and click the **Yes** button (or press the panel **YES** key).

(4) Select the audio file that you want to import.
- Click the **Select File** button to open the **Select File** dialog box.
- You can preview the first six seconds of the selected audio file by clicking the **Prev** button.
- Select **"D3200_ST.WAV"** and click the **OK** button (or press the panel **YES** key).

(5) Select the clipboard as the import-destination track number.
In the **Trk** cell, select **"Clip."**

(6) Execute the import.
Click the **Exec.** button to open the **Import** dialog box, and click the **Yes** button (or press the panel **YES** key) to execute.
When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

*The length of time required for this operation to be **completed** will increase in proportion to the size of the file being imported.*

(7) Copy the imported audio file from the clipboard into tracks 1 and 2.
- Store the TO location (→p.38 "Assigning locations to the Locate keys").
- Refer to "Using the clipboard to copy data to another song" (→p.70), steps (9)–(14).

2-2. Exporting an audio file

Here's how to export an audio file.

When exporting to CD-R/RW, use either a blank disc or an ISO9660 format disc that has not been finalized.

An audio file exported to CD-R/RW can be loaded by the D3200 or by a computer even if the disc has not been finalized.

A file exported to the PC drive can then be saved on your computer. To do so, first save the file on the PC drive of the D3200's hard disk, and then save that file onto your computer.

Exporting an audio file

i.e. Copying the audio data from the master track of a 48 kHz/24-bit song to the clipboard, and exporting it to the PC drive as a stereo audio file named "D3200_ST.WAV"

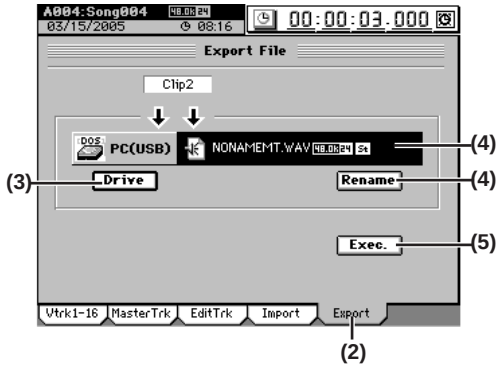
(1) Select a 48 kHz/24-bit song, and copy the master track audio data to the clipboard.
- Refer to "Using the clipboard to copy data to another song" (→p.70), steps (1)–(6).

(2) Select the Export command.
Access the **TRACK**, **"Export"** tab page.

(3) Select the export-destination drive.
Click the **Drive** button to open the **Select Drive** dialog box. Choose **"PC"** and click the **Yes** button (or press the panel **YES** key).

(4) Rename the audio file.
A name of **NONAMEST.WAV** will be assigned automatically.
Click the **Rename** button to open the **Rename** dialog box, and change the name to **D3200_ST.WAV** (→p.36).
For details on the file names you can use, refer to "Writing" (→p.172).

If the export-destination already contains an identically-named file, you will not be able to export the file. In this case, please rename the file so it can be saved.



(5) Execute the export command.
Click the **Exec.** button. In the **Export** dialog box, click the **Yes** button (or press the panel **YES** key) to execute.
When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

Exporting multiple audio files

If you export four or more tracks in a single operation, all of them will be saved as monaural files.

i.e. Copying the audio data of tracks 1–16 from a 44.1 kHz/16-bit song to the clipboard, and exporting the data to CD-R/RW as sixteen monaural audio files named "D3200_01.WAV"–"D3200_16.WAV"

(1) Insert a disc in the CD-R/RW drive.

(2) Select a 44.1 kHz/16-bit song, and copy the tracks 1–16 audio data to the clipboard.

- Refer to "Using the clipboard to copy data to another song" (→p.70), steps (1)–(6).

(3) Select the Export command.
Access the **TRACK**, **"Export"** tab page.

(4) Select the export-destination drive.
Click the **Drive** button to display the **Select Drive** dialog box. Choose **"CD"** and click the **Yes** button (or press the panel **YES** key).

(5) Rename the audio file.
Here the display will show the file name of the first track.
The names **NONAME01.WAV–NONAME16.WAV** will be assigned automatically.
Click the **Rename** button to open the **Rename** dialog box, and change the file name to **D3200_01.WAV** (→p.36).
For details on the file names you can use, refer to "Writing" (→p.172).

note *If an identically-named file already exists, you will be unable to execute this operation. Please change the file name.*

(6) Execute the export.

- Click the **Exec.** button to open the **Export File** dialog box, and specify the speed at which the data will be written to CD (→p.136).
- If you add a check mark to the **Finalize CD** check box, it will not be possible to add any further data to that disc (→p.136).

note *When exporting to CD-R/RW, the written data is automatically compared to ensure that an invalid backup CD is not created.*

- When the operation is finished, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

3. Drive and data compatibility with the *Digital Recording Studio* series

In the Digital Recording Studio series, the D32XD and D16XD are compatible with each other, but the D32XD and D16XD are not compatible with the D12, D16, D1200, D1600, D1200mkII, and D1600mkII.
However, D12, D16, D1200, D1600, D1200mkII, and D1600mkII backup data can be restored.
You can also restore song data that was backed-up to a PC via the D1200, D1200mkII, or D1600mkII.

note *The restored song data consists of the audio data, song name, song protect setting, LOC 1–4 positions, and MARK 1–99 positions. When you restore song data that was backed up to the PC drive, the song protect setting will be cleared.*

Using D32XD and D16XD data

D32XD / D16XD backup data can be restored into the D3200. When D32XD backup data is restored into the D3200, the following data will be ignored.

- Data for insert effects 9–24
- AUX3 / 4 Send data
- Tempo map settings

96 kHz 24-bit songs cannot be restored.

Using D3200 data on a different model

(1) On the D3200, export the data to a WAV format audio file. "2-2. Exporting an audio file" (→p.87)

(2) On the other device, import the WAV format audio file. (Refer to the manual for the device you are using.)

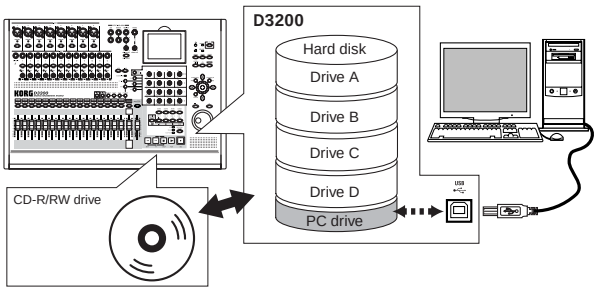
Using data from a different model on the D3200

(1) On the other device, export the data to a WAV format audio file. (Refer to the manual for the device you are using.)

(2) On the D3200, import the WAV format audio file. "2-1. Importing an audio file" (→p.86)

Drive

The D3200's hard disk can be divided into one, two or four song drives used to record and play back songs, and a PC drive used to exchange data with a personal computer.
The D3200 also has a built-in CD-R/RW drive that lets you write backup data or the audio data for a completed song to a CD, or load audio files or backup data from a CD.



The D3200 provides the following utility functions for managing these drives.

Partition: Divide a song drive

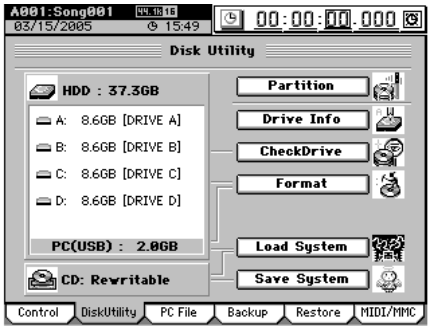
Drive Info: View information about a song drive, or rename a drive

Check Drive: Check the hard disk

Format: Format the hard disk

Load System: Update the system

Save System: Create a system recovery CD



You can also check the size of files in the PC drive, and rename or delete them. (→p.92)

1. Specifying the drive size

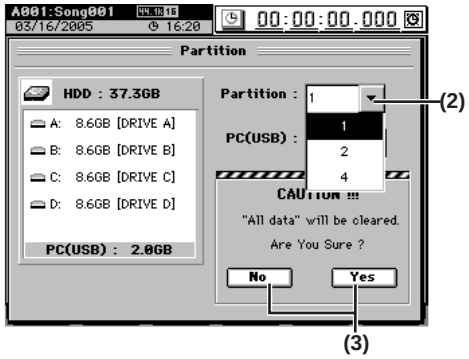
You can partition the hard disk into as many as four song drives. You can also change the size of the PC drive.

1-1. Partitioning the hard drive into separate song drives (Partitions)

*When you partition the hard disk, all data in the song drive area will be erased. However, and **"User Data"**(→p.83, 122), **SYSTEM/MIDI "Control"** tab page data.*

(1) Access the SYSTEM/MIDI, "DiskUtility" tab page, and click the Partition button to display the Partition dialog box.

(2) Click the Partition list button and select the number of hard disk partitions you wish to create.



(3) Execute the Partition operation.
When you click the **Yes** button (or press the panel **YES** key), the display will ask **"Are You Sure?"** Click the **Yes** button (or press the panel **YES** key) to begin the operation.

When you make partition settings, a warning dialog box will appear if the drive contains even one song for which Protect is turned on. (→p.120)

Partitioning will erase all data from the song drive area of the hard disk. When the operation is completed, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key) to return to the **"DiskUtility"** tab page.
The song drives are identified as **A**, **B**, **C**, and **D**.

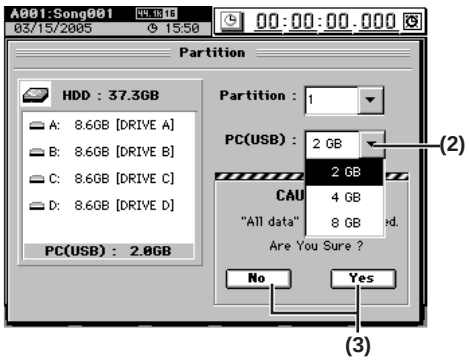
1-2. Specifying the PC drive size

If connected to a Windows 98 computer, only 2 GB can be detected for a PC (USB) drive. The drive will not be detected if it is 4 GB or 8 GB in size.

*When you execute a change in the PC (USB) drive size, the data of the PC (USB) drive and all song drives will be lost, but the **"User Data"** (→p.83, 122) and **SYSTEM/MIDI**, **"Control"** tab page data will be preserved.*

(1) Access the SYSTEM/MIDI "DiskUtility" tab page, and click the Partition button to display the Partition dialog box.

(2) Click the PC Drive list button and choose the desired size for the PC (USB) drive.



(3) Execute the change in the PC drive size.
When you click the **Yes** button a message of **"Are You Sure?"** will appear; click the **Yes** button (or press the panel **YES** key) once again to execute.

When you change the size of the PC drive, a warning dialog box will appear if the drive contains even one song for which Protect is turned on. (→p.120)

When you change the size of the drive, the entire hard drive will be erased, including all data on the song drives and PC drive.
When the operation has been completed, the display will indicate **"Completed"**, click the **OK** button (or press the panel **YES** key) to return to the **"DiskUtility"** tab page.

2. Renaming a song drive

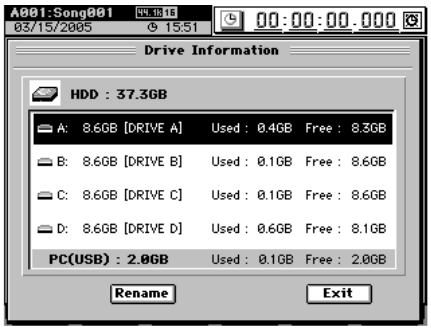
Here's how you can check the capacity of each song drive, and rename a song drive.

note *You can also rename a song drive in the **Select Drive** dialog box that appears when you click the **Drive** button in the **SelectSong** or **Album CD Project** dialog box.*

(1) Access the SYSTEM/MIDI, "DiskUtility" tab page.

(2) Click the Drive Info button to display the Drive Information dialog box.
For each drive, the dialog box displays the total capacity, song drive name, used area, and free area.

(3) If you want to rename a drive, select that drive in the song drive list, click the Rename button, and rename it in the Rename dialog box (→p.36).
For details on the file names you can use, refer to "More about drives and files" (→p.171).


A001:Song001
03/15/2005
15:51
00:00:00.000
Drive Information
HDD : 37.3GB
A: 8.6GB [DRIVE A] Used : 0.4GB Free : 8.3GB
B: 8.6GB [DRIVE B] Used : 0.1GB Free : 8.6GB
C: 8.6GB [DRIVE C] Used : 0.1GB Free : 8.6GB
D: 8.6GB [DRIVE D] Used : 0.6GB Free : 8.1GB
PC(USB) : 2.0GB Used : 0.1GB Free : 2.0GB
Rename
Exit

3. Checking the hard disk

This operation finds and fixes errors on a song drive of the hard disk. Perform this operation if **"Disk too busy."** errors still appear even after you have executed the Optimize track editing operation. After you perform this operation, if the "Disk too busy" error messages no longer appear, then, you will still be able to use the song data.

You cannot check the PC drive.

(1) Access the SYSTEM/MIDI, "DiskUtility" tab page, and click the Check Drive button to display the Check Drive dialog box.

(2) Click one of the Area list buttons to specify the area that you want to check.

Current Song
Check and repair the area used by the currently selected song.

Unused
Of the unused area, check and repair the next 2 GB that will be used.

Current Partition
Check and repair the area of the currently selected song drive (partition).

All Partitions
Check and repair all partitions and the area used by the system.

(3) Execute the check.

- Click the **Yes** button (or press the panel **YES** key) to begin checking.
- If you want to stop mid-way through the check, click the **Cancel** button (or press the panel **NO** key).
- When the operation is completed, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

If a message such as **"Repaired successfully.," Drive Error occurred.,"** or **"Repaired, but some audio data was lost."** appears, refer to "Various messages" (→p.168).

4. Formatting the hard disk

Perform this procedure if you want to erase data from an entire song drive or the PC drive, or if the **"Drive Error occurred."** display appears frequently and checking the hard disk does not improve the situation. You can format the song drive and PC drive together in a single operation, or format them separately.

When you execute the Format operation, all data on the selected song drive or PC drive will be erased. Be sure to check the contents of the drive before you format it.

If a power failure or similar accident occurs during the formatting process, it is possible that the D3200 will no longer operate correctly. If this occurs, please contact your Korg distributor.

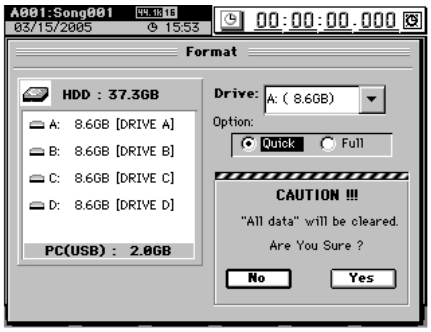
(1) Access the SYSTEM/MIDI, "DiskUtility" tab page, and click the Format button to display the Format dialog box.

(2) Click the "Drive" popup button, and select the drive that you want to format.
A...D: the specified individual song drive
PC: the PC drive
A–D: all song drives
ALL: the entire hard disk

(3) Select the desired method.

Quick: Use this when you want to erase the data saved in an individual song drive or the PC drive. This operation will take only a short time.
ALL → approximately 7 seconds: 40 GB

Full: Use this if the **"Drive Error occurred"** error message occurs frequently, or if error messages appear even after you perform the "Check Drive" operation. This operation will take a long time to be completed.
ALL → approximately 7 hours: 40 GB



(4) Click the Yes button (or press the panel YES key). The display will ask "Are You Sure?" To execute the operation, click the Yes button (or press the panel YES key).

- If you decide not to format, click the **No** button (or press the panel **NO** key).
- Formatting will erase all data from the selected drive.

- When the operation is completed, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

When you execute formatting, a warning dialog box will appear if the drive contains even one song for which Protect is turned on. (→p.121)

5. Load system

This lets you easily update the operating system of the D3200. For the update procedure, refer to "Upgrading the system" (→p.96).

6. Creating a system recovery CD

The D3200's system is stored on the hard disk. At start-up, the system is loaded into the system area, and then begins running.
If the hard disk should fail, it is possible in the worst case that the system will become incapable of starting up.
As a safeguard against such emergencies, we suggest that you create a system recovery start-up CD.

(1) Access the SYSTEM/MIDI "DiskUtility" tab page, and click the Save System button to open the Save System dialog box.

(2) Insert a disc into the CD-R/RW drive.
Use a blank disc.

You must use a blank disc to create a system recovery disc. You cannot create a system recovery disc using a disc that already contains data.

(3) Click the Yes button (or the panel YES key) to begin creating the system recovery disc.
If you decide not to create a recovery disc, click the **No** button (or press the panel **NO** key).

(4) When the recovery disc has been created, the display will indicate "Completed"; click the OK button (or press the panel YES key).

7. Drive capacity

This section explains how you can make the best use of the D3200's song drive capacity. For explanatory purposes, we will assume that you have recorded a song with the following structure.

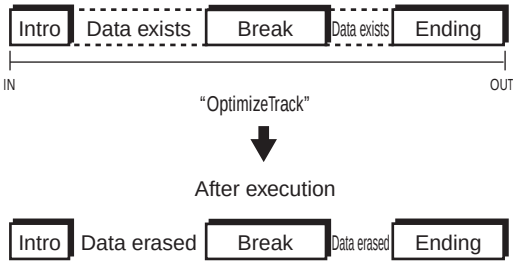
note *The Edit Track operation described here does not need to be performed often. It is sufficient to perform this operation when the **"Disk too busy."** indication appears, or when you want to recover disk drive capacity after completing a song.*

i.e. 1. You began recording on track 1 from the beginning of the song, and only played during the Intro, Break, and Ending on the first take.

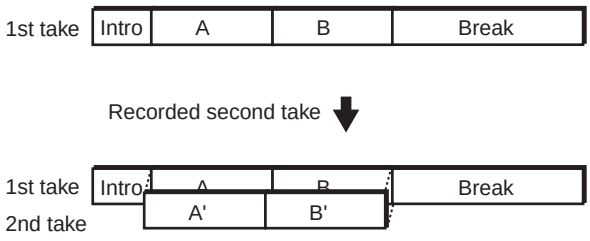
In this case, silence (actually, noise-level sound) will have been recorded in the A, B, and Solo sections of track 1, unnecessarily using up valuable drive space.

To keep only the audio data that you are actually using

Execute the **TRACK "EditTrk"** tab page **"Erase Silence"** command on track 1 for the region between the beginning and end of the song.
This will cause audio data to be preserved only for the actually-used regions, so that only the intro, break, and ending will occupy drive space.



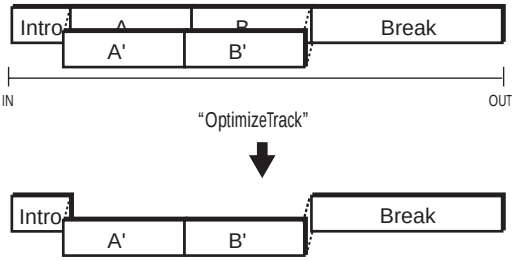
i.e. 2. You began recording on track 1 from the beginning of the song, and played the Intro, A, B, and Break during the first take, and then recorded a second take, overwriting the original A and B with A' and B'.



In this case, A and B of the first take remain "beneath" A' and B' of track 1, in order to preserve the data for Undo and also because they are a continuous piece of audio data with the Intro and Break. This means that Intro, A+A', B+B', and Break are all occupying disk space.

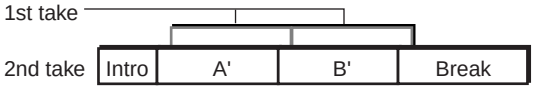
To erase A and B that remain from the first take, and recover disk space

Execute the **TRACK "EditTrk"** tab page **"OptimizeTrk"** (optimize) command on track 1 for the region between the beginning and end of the song.
When this is executed, only the audio data of the Intro, 2nd take of A (A'), 2nd take of B (B'), and the Break will be kept. This means that the 1st take of A and 1st take of B data will no longer occupy disk space.



i.e. 3. You recorded A and B on track 1 as the first take. As the second take, you overwrite-recorded the Intro, A', B', and Break.

1st take



In this case, the first take A and B remain "beneath" A' and B', but since the audio data of take 1 is not used at all once you finished recording take 2, there is no need to execute the optimize command.

Deleting the Undo data

Even if you use the drive space efficiently as described above (i.e.), the old data will be kept on the drive for use by the Undo function.
To delete this undo data, either click the **Clear** button in the **"Undo/Redo"** tab page (→p.141), or put the D3200 in standby mode (shut down). After restarting, all undo data will be deleted, recovering free space on the drive.
Be aware that restarting the D3200 will delete the undo data of all the songs.

Sharing event data

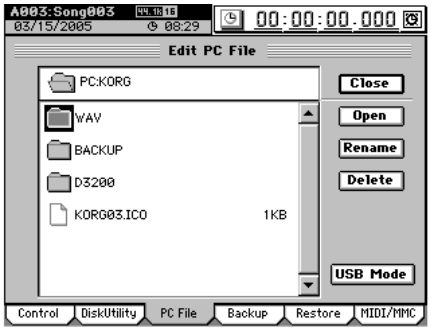
If you use the Copy Track operation to copy track data to another track (e.g., virtual track) or another song, this audio data will be shared, so that the drive capacity will not decrease. However if you execute the Optimize Track operation on the copy-destination or copy-source track, new audio data will be created, and this will mean that a greater amount of drive capacity will be used than before the operation was executed.

In the case of i.e. **2** above, if you copy the first take to another track before you record the second time, then executing the Optimize Track operation will not delete the "A" and "B" regions of the first take, and new audio data for the "Intro" and "Break" regions will be created, meaning that a greater amount of drive capacity will be used.

8. PC drive

The PC drive is an area used to share data with your computer. Its size may be set to 2, 4 or 8 GB (→p.89 "1-2. Specifying the PC drive size").
You can use the **SYSTEM/MIDI, "PC File"** tab page command to check, rename, or delete files on the PC drive.
The PC drive contains the following folders, which contain the following files.

- **BACKUP folder:** backup files
- **WAV folder:** audio files in WAV format
- **D3200 folder:**
  This folder contains system files for updating the system.



Checking, renaming, or deleting files

You can check the size, rename, or delete files that are on the PC drive.

(1) Access the SYSTEM/MIDI, "PC File" tab page.
To move to a lower level, select a folder and click the **Open** button.
To return to the next upper level, click the **Close** button.

(2) To rename a file, select the file, click the Rename button, and rename the file (→p.36).
For details on the file names you can use, refer to "More about drives and files" (→p.171).

(3) To delete a file, select the file and click the Delete button.

- The display will ask **"Are You Sure?"** Click the **Yes** button (or press the panel **YES** key) to delete the file.
- If you decide not to delete the file, click the **No** button (or press the panel **NO** key).
- When the file has been deleted, the display will indicate **"Completed."** Click the **OK** button (or press the panel **YES** key).

USB

USB stands for **U**niversal **S**erial **B**us, and is an interface for transferring data between a computer and peripheral devices.

USB peripheral devices such as hard drives or CD-R/RW drives cannot be connected to the D3200.

The D3200 has a **USB** connector which can be connected directly to your computer, allowing you to save data from the PC drive to your computer, or load data from your computer to the PC drive.

1. Saving / loading

Do not format the D3200's PC drive from your computer. The D3200's PC drive may be formatted only by the D3200 itself (→p.90).

Windows users (Windows Me / 2000 or later)

In order to use the D3200 with Windows 98, you must install a device driver. For details on obtaining and installing the device driver, refer to the Korg website (http://www.korg.com).

note *The computer screen will differ depending on your system. The screens shown here are for Windows XP.*

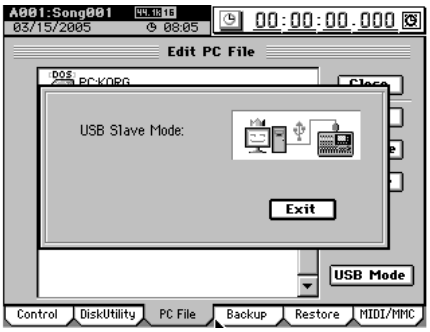
(1) Use a USB cable to connect the D3200 to your computer.
Connect the USB cable from your computer to the D3200's USB connector. Make sure that the connector is oriented correctly, and press it all the way in.

Before you make this connection, turn on your computer and start up the operating system.

(2) Access the SYSTEM/MIDI, "PC File" tab page.

(3) Click the USB Mode button to display the USB Slave Mode dialog box.

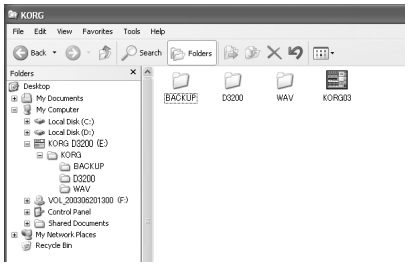
Do not disconnect the USB cable or turn your computer on/off while this screen is displayed.



(4) A drive named "KORG D3200" will appear on your computer.

note *When you connect the D3200 to your computer for the first time, a device driver will be installed.*

(5) Use your computer to save the data.
When you open the "KORG D3200" drive that appeared in step (4), you will see the contents of the PC drive area within the D3200's internal hard disk.
Copy the desired data onto your computer. You may also copy data from your computer back to the D3200's PC drive.



(6) Disconnect the D3200 from your computer.
Left-click the ( ) icon that is displayed in the right side of your computer's taskbar.

From the menu that appears, left-click "Stop USB disk drive (KORG D3200)." Verify that you see a message of "Safely remove USB Mass Storage Device."
Click the **Exit** button of the **USB Slave Mode** screen. After you have exited USB Slave mode, unplug the **USB** cable from the D3200.

note *If you are using Windows Me, "USB high capacity storage device" will be displayed as "USB disk."*

Macintosh users (Mac OS9.0.4 or later)

(1) Use a USB cable to connect the D3200 to your computer.
Connect the USB cable from your computer to the D3200's USB connector. Make sure that the connector is oriented correctly, and press it all the way in.

(2) Access the SYSTEM/MIDI, "DiskUtility" tab page.

(3) Click the USB Mode button to display the USB Slave Mode dialog box.

Do not disconnect the USB cable or turn your computer on/off while this screen is displayed.

(4) A drive named "KORG D3200" will appear on the desktop of your computer.

note *When you connect the D3200 to your computer for the first time, a device driver will be installed.*

(5) Use your computer to save the data.
When you open the "KORG D3200" drive that appeared in step (4), you will see the contents of the PC drive area within the D3200's internal hard disk. Copy the desired data onto your computer. You may also copy data from your computer back to the D3200's PC drive.

(6) Drag the added drive into the trash.
When you want to disconnect the D3200, either drag the drive from the desktop into the trash, or select the "File" menu command "Put Away." Click the **Exit** button of the **USB Slave Mode** screen to exit USB Slave mode, and then unplug the USB cable from the D3200.

MIDI

MIDI stands for **M**usical **I**nstrument **D**igital **I**nterface, and is a world-wide standard used to exchange performance data between electronic musical instruments and computers.

1. MIDI connections

Use only MIDI cables to transfer MIDI data. Connect these cables between the MIDI connectors of the D3200 and the MIDI connectors of the external MIDI device with which you want to transfer data.

MIDI IN connector
Receives MIDI messages from another MIDI device. Connect this to the MIDI OUT connector of the external device.

MIDI OUT connector
Transmits MIDI messages from the D3200. Connect this to the MIDI IN connector of the external device.

MIDI channel settings

MIDI uses sixteen channels (1–16) to independently convey data to multiple MIDI devices. If the transmitting device is sending data on MIDI channel **"1,"** the receiving device must also be set to MIDI channel **"1"** in order to receive this data. (→p.125 "3. Global Ch")

2. MIDI messages used by the D3200

Note On (Note, velocity), aftertouch, pitch-bend:
The D3200 uses these messages to control effects.

Program change:
The D3200 uses these messages to switch scenes.

Control change:
The D3200 uses these messages to control mixer and effect parameters.

MMC (MIDI Machine Control):
MMC messages can be transmitted from the D3200 to control an external MMC-compatible sequencer or recorder. MMC messages received from an external sequencer or recorder can be used to control the D3200.

MTC (MIDI Time Code):
The D3200 can transmit or receive MTC messages to synchronize with an external sequencer or recorder.

MIDI Clock:
The D3200 can transmit MIDI Clock. It can also receive MIDI Clock if you have selected MIDI Clock for the tempo track and are recording the tempo track.

About the MIDI implementation chart

The owner's manual of each MIDI device includes a MIDI implementation chart. This chart shows the types of MIDI message that the device can transmit and receive. When using two MIDI devices together, compare their MIDI implementation charts to verify that the devices will be able to communicate as you expect.

* *A detailed explanation of the D3200's MIDI functionality can be found in the separate MIDI implementation. Consult your local Korg distributor for more information on MIDI Implementation.*

3. Using MIDI

Controlling the D3200 from a MIDI sequencer

You can use MMC messages transmitted and received from a MIDI sequencer to control D3200 operations such as stop, play, record, and locate.

note *You must use a sequencer that supports MMC. These operations cannot be performed from a sequencer that does not support MMC.*

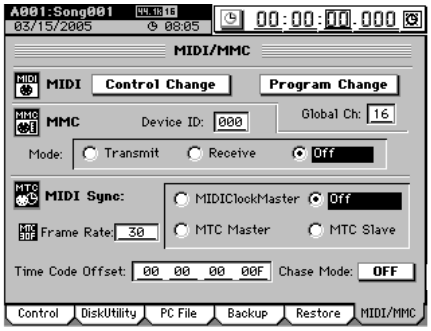
(1) Use a MIDI cable to connect the two devices.
Use MIDI cables to connect the MIDI IN connectors and MIDI OUT connectors of the D3200 and your MIDI sequencer to each other.

(2) Adjust the settings on your MIDI sequencer.
Set your sequencer to transmit MMC and to receive MTC (MTC Slave). For details, refer to the owner's manual of your MIDI sequencer.

(3) Turn on MMC reception.
In the **SYSTEM/MIDI**, **"MIDI/MMC"** tab page, set **"MMC Mode"** to **"Receive,"** and set **"MIDI Sync"** to **"MTC Master."**

(4) Set the device ID to match.
Set the **"Device ID"** to match the MMC device ID of your MIDI sequencer.

note *If you leave the **"Device ID"** set to 127, MMC commands can be exchanged with any device.*



(5) Operate your external MIDI sequencer.
When you perform stop, play, record, and locate operations on your MIDI sequencer, the D3200 will be controlled. (For details, refer to the manual of your MIDI sequencer.)

Synchronizing two D3200 units

Here's how you can make two D3200 units play back in sync. One D3200 will be the MTC master, and the other will be the MTC slave.

(1) Use a MIDI cable to connect your equipment.
Use MIDI cables to connect the MIDI IN connectors and MIDI OUT connectors of the master and slave D3200 units to each other.

(2) Make settings on the master D3200.
In the **SYSTEM/MIDI**, **"MIDI/MMC"** tab page, set **"MIDI Sync"** to **"MTC Master,"** and set **"MMC Mode"** to **"Receive."**
For this example, set **"Device ID"** to **"10."**

(3) Make settings on the slave D3200.
In the **SYSTEM/MIDI**, **"MIDI/MMC"** tab page, set **"MIDI Sync"** to **"MTC Slave,"** and set **"MMC Mode"** to **"Transmit."** Set **"Device ID"** to **"10"** to match the setting of the master device.

note *If you don't want to transmit or receive mixer control messages, disable control change transmission and reception (→"Using MIDI to control the mixer").*

(4) Press the PLAY key of the slave D3200 unit.
An MMC message will be transmitted from the slave D3200 unit. The master unit will receive this message, and will start playing. When playback begins, the master unit will transmit MTC, and when the slave unit achieves synchronization, it will begin playback.

note *It may take several seconds for synchronization to be achieved.*

note *The D3200 supports multiple frame rates. The transmitting and receiving devices must both be set to the same frame rate.*

Using MIDI to control the mixer

i.e. Recording D3200 mixer operations on your external MIDI sequencer

(1) Use a MIDI cable to connect the two devices.
Use a MIDI cable to connect the D3200's **MIDI OUT** connector to the MIDI IN connector of your external MIDI sequencer.

(2) Adjust the synchronization settings on the D3200 and on your external MIDI sequencer.
Access the **SYSTEM/MIDI**, **"MIDI/MMC"** tab page, and set **"MIDI Sync"** to **"MIDIClockMaster"** or **"MTC Master."**
Adjust the synchronization settings on your external MIDI sequencer as well. (For details, refer to the manual of your MIDI sequencer.)

(3) Enable control change transmission on the D3200.
- In the **SYSTEM/MIDI**, **"MIDI/MMC"** tab page, click the **"MIDI"** parameter **"Control Change"** to turn it on.
- If you want scene change data and mixer parameter changes created by event automation playback to be transmitted, turn the **SCENE**, **"Automation"** tab page **"Automation"** parameter on, and also click the **SYSTEM/MIDI "MIDI/MMC"** tab page **"MIDI" "Program Change"** parameter to turn it on.

(4) Put the external MIDI sequencer in record-ready mode.
The D3200's mixer control data is transmitted on MIDI channels 1–16. Set your external MIDI sequencer so that it will record all sixteen MIDI channels. (For details, refer to the manual of your MIDI sequencer.)

note *For details on the parameters, refer to the MIDI implementation. Consult your local Korg distributor for more information on MIDI Implementation.*

(5) Begin recording.
Press the D3200's **PLAY** key to begin playback, and the external MIDI sequencer will begin synchronized recording. Now if you operate the mixer parameters (faders, pan, EQ etc.), the corresponding control change messages will be transmitted from the D3200 and will be recorded on the external MIDI sequencer.

(6) Stop the D3200.
When you press the D3200's **STOP** key to stop playback, the external MIDI device will also stop recording. The D3200's mixer parameter operations have now been recorded on the external MIDI device.

i.e. Receiving the mixer operations recorded above in "i.e. Recording D3200 mixer operations ..." from your external MIDI sequencer to control the D3200 mixer

(1) Use a MIDI cable to connect the two devices.
Use MIDI cables to connect the MIDI IN connectors and MIDI OUT connectors of the D3200 and your MIDI sequencer to each other.

(2) Adjust the synchronization settings on the D3200 and on your external MIDI sequencer.
Access the **SYSTEM/MIDI**, **"MIDI/MMC"** tab page, and set **"MIDI Sync"** to **"MTC Master."**
Set your external MIDI sequencer to function as MTC Slave. (For details, refer to the manual of your MIDI sequencer.)

(3) Enable control change reception on the D3200.
- In the **SYSTEM/MIDI**, **"MIDI/MMC"** tab page, turn the **"MIDI"** parameter **"Control Change"** to turn it on.
- In the **SCENE**, **"Automation"** tab page, click **"Automation"** to turn it off.

(4) Press the D3200's PLAY key.
When the D3200 starts playing, your external MIDI sequencer will also begin playing in synchronization. The previously-recorded mixer operation data will be transmitted from the MIDI sequencer, causing the settings of the D3200's mixer to change.

Upgrading the system

1. Downloading the operating system

The most recent operating system can be downloaded from the Korg website (http://www.korg.com). For details on the procedure, refer to the Korg website.

Upgrading via CD-ROM/R/RW

Insert the media containing the system file into the CD-R/RW drive.

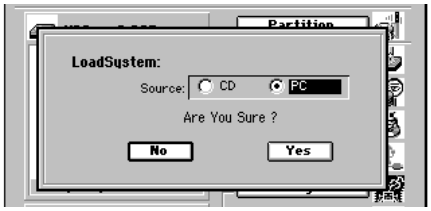
Upgrading via USB

Use a USB cable to connect the D3200 to your computer, and copy the system files to the D3200 folder of the PC drive.

2. Upgrading the system

(1) Access the SYSTEM/MIDI, "DiskUtility" tab page.

(2) Specify the loading source for the system file.
Click the **Load System** button to display the **LoadSystem** dialog box. Click either the **"CD"** or **"PC"** radio button to specify the loading source.



(3) Click the Yes button (or press the panel YES key) to begin the update.

If an unexpected accident such as power failure occurs while updating the system, the D3200 may become incapable of normal operation. In such cases, please contact Korg distributor.

(4) When the upgrade is finished, the D3200 will automatically restart using the new system.
If the upgrade fails, the D3200 will display an message and will not restart. Note the contents of the message (→p.168 "Various messages").

Using a recovery CD to recover the system

If for some reason the system is no longer able to start up normally, you can recover the system using the CD you created in "6. Creating a system recovery CD" (→p.91).

Preserving non-system data when you recover

If you recover the system using the following procedure, data other than the system data will be preserved.

(1) While holding down the panel PAN key and LOC 2 key, press the power-on key.
A message of **"System Recovery. Insert System Disk. Wait CD Mount."** will appear in the screen.

(2) Insert the recovery CD you created into the CD-R/RW drive.

Once you've inserted the recovery CD, do not eject it until the system recovery procedure is completed.

(3) The display will indicate "CD Read OK." and the recovery procedure will begin automatically.

(4) When the recovery is complete, the display will indicate "Completed."

(5) Click the OK button (or press the panel YES key). The opening screen will appear, and the D3200 will automatically restart.
When the D3200 has finished starting up, remove the recovery CD from the CD-R/RW drive.

If an error appears and the recovery is unsuccessful

The procedure described above will recover by overwriting the system data area of the hard disk. If you are unable to recover successfully by using this method, you'll have to initialize the entire hard disk. Be aware that when you execute the recovery procedure described below, all data on the hard disk will be erased.

(1) Press the power-off key to return to standby mode.

(2) While holding down the panel PAN key and LOC 3 key, press the power-on key.
A message of **"System Recovery. Insert System Disk. Wait CD Mount."** will appear in the screen.

(3) The display will indicate "CD Read OK." Then the display will indicate "Testing Hard Disk..." and the hard disk will be formatted.

(4) When the recovery is complete, the display will indicate "Completed."

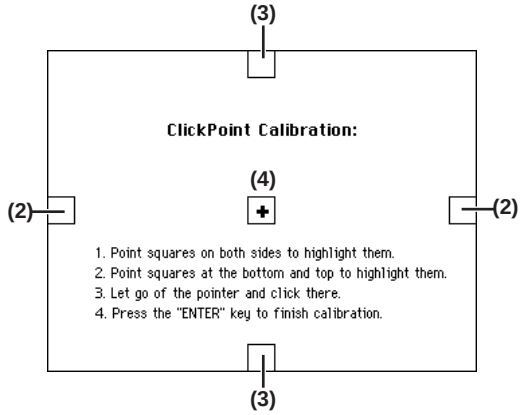
(5) Click the OK button (or press the panel YES key). The opening screen will appear, and the D3200 will automatically restart.
When the D3200 has finished starting up, remove the recovery CD from the CD-R/RW drive.

If this procedure is also unsuccessful, please contact your Korg distributor.

ClickPoint calibration

If the pointer does not move in the LCD screen as you expect, or if the wrong button or cell is selected when you click the pointer position in the LCD screen, you can recalibrate the ClickPoint so the LCD screen and the pointer are aligned.

(1) In SYSTEM/MIDI, "Control" tab page, click the Calibration button.
The **ClickPoint Calibration** dialog box will appear.


(3)
ClickPoint Calibration:
(4)
(2)
(2)
1. Point squares on both sides to highlight them.
2. Point squares at the bottom and top to highlight them.
3. Let go of the pointer and click there.
4. Press the "ENTER" key to finish calibration.
(3)

(2) Move the ClickPoint left and right so that the rectangles displayed at the left and right of the LCD screen are highlighted.
The rectangles will be highlighted when the position has been detected.

(3) Move the ClickPoint up and down so that the rectangles displayed at the top and bottom of the LCD screen are highlighted.
The rectangles will be highlighted when the position has been detected.

(4) Click the joy stick without moving it (i.e., in the center position).
The rectangles will be highlighted when the position has been detected.

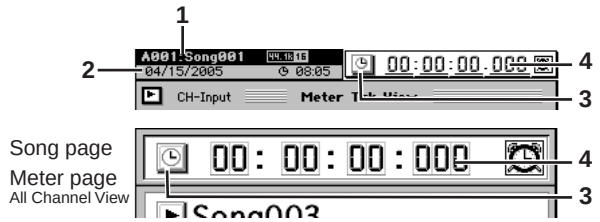
(5) Press the panel ENTER key.
Calibration will be completed, and you will return to the **"Control"** tab page.

Reference

Counter

Counter display

Click the counter button, and select the desired counter display method in the **Time Disp Type** dialog box.



1. **Song display**
   Displays the song drive name, song name, sampling frequency, and bit depth.
2. **Information display**
   Displays date, remaining recordable time, scene, mark, and tempo map data.
   If the information display radio buttons in the **Time Disp Type** dialog box are set to **Date Time**, and you have not set the calendar, the indication is grayed-out to indicate that it is not valid.
3. **Counter button**
   Click this to display the **Time Disp Type** dialog box.
4. **Counter display**
   Displays the current recorder location and measure.

Time Disp Type dialog box

1. **Location radio buttons**
   These select the format and type of units used in the counter display.

   Time display ____:____:___.___ (HMSm)
   The current location is shown as absolute time from the beginning of the song. From the left, this shows Hours: Minutes: Seconds. milliseconds (1/1000 seconds).
   * Maximum value is 23:59:59.999

   Frame display ___:___.___.__F (HMSF)
   The current location is shown as absolute time and frames from the beginning of the song. From the left, this shows Hours: Minutes: Seconds. Frames (the "Frame Rate" setting of p.125).
   * Maximum value is 23:59:59.29F (when using 30 frames/second)

   Measure display __:__.__ (MBT)
   The current location is shown as the number of measures from the beginning of the song. From the left, this shows Measures:Beats.Ticks (1/96th beat)
   * Maximum value is 99999:03.095 (for a 4/4 time signature)
2. **Information display radio buttons**
   These select the information that will be shown in the information display.

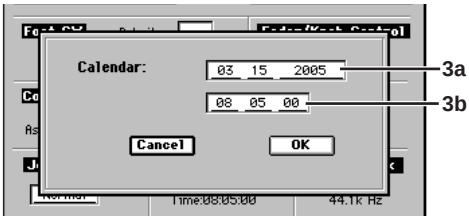
   Date Time:
   Calendar display, showing the current year/month/date and time (hours and minutes).
   This will be grayed-out if you have not set the date and time.

   Free Time:
   Displays the amount of recording time available on the currently selected drive. From the left, this indicates hours, minutes, and seconds.

   Scene:
   Displays the currently-used scene name and scene location.

   Mark:
   Displays the currently-used mark name and mark location.

   PatternMap:
   This indicates the drum pattern that is currently being used.
3. **Date/Time**
   Here you can specify the date and time for the D3200's internal clock. Songs are managed according to the date and time you specify here.



The **Calendar** dialog box will appear when you click this button. To apply the new date and time, click the **Yes** button. If you decide not to change the date and time, click the **No** button. (Alternatively, you can press the panel **YES** key or **NO** key.)

3a. Date
This displays (and lets you set) the current date, displayed as Month:Date:Year (four digits).

3b. Time
This displays (and lets you set) the current time, displayed in 24-hour time as Hours:Minutes:Seconds.

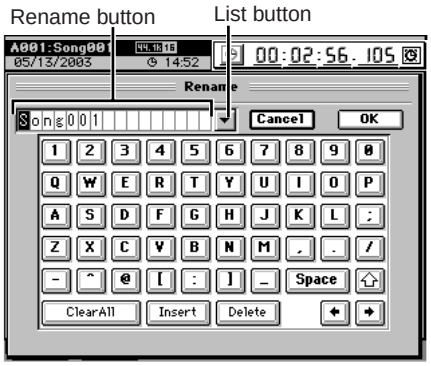
The date and time are retained when you power-off to the Standby mode. However, when you turn off the main power switch, you'll have to reset them.

Rename

Editing a name

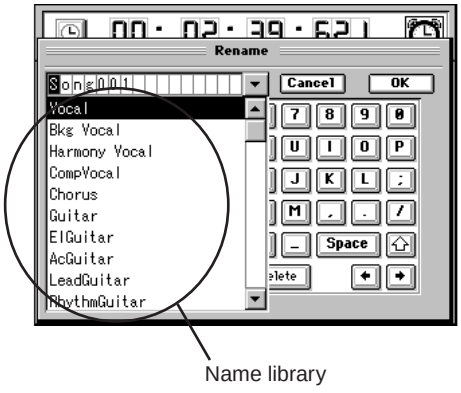
When the **Rename** button is displayed in a parameter setting tab page (such as Song, Track, Effect, Scene), you can click the button to edit the corresponding name.
Alternatively, you can choose an appropriate name from the name library and then edit it.
Highlight the name you want to edit, and click the **Rename** button. The **Rename** dialog box will appear, allowing you to edit the name. You can input a name of up to sixteen characters. Certain limitations apply to the backup or export filename (→p.172).

← →	Moves the highlighted cursor left or right in the rename box
Space	Inserts a space at the highlighted area
⇧	Switches between uppercase and lowercase characters
Delete	Deletes the character at the highlighted area
Insert	Inserts a blank at the right of the highlighted area
ClearAll	Erases all characters in the rename box
OK	Finalizes the name that you input
Cancel	Discards the name that you input
0…9, A…Z/…@	Inputs the numeral, character, or symbol at the highlighted location



Using the name library

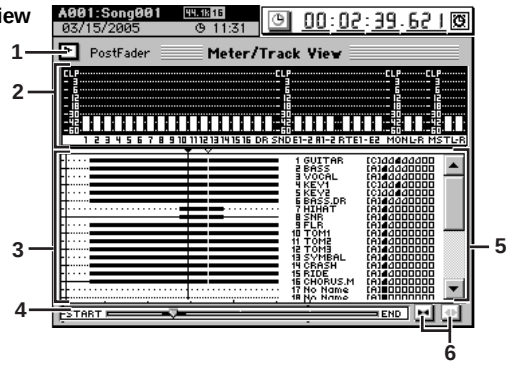
When you click the list button beside the name, the name library will appear. Use the scroll bar to display the name you want to use, and click that name to input it in the list box.
For details on the name library, refer to "Name Library List" (→p.177).



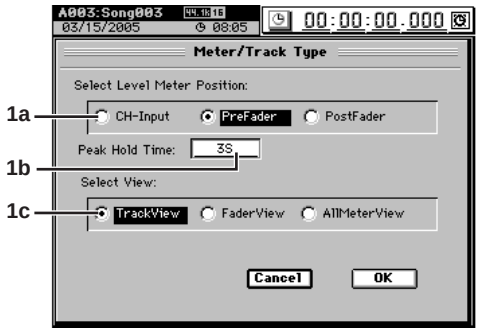
1. METER

Meter / Track View

Here you can view level meters for tracks 1–16 or 17–32 and various line signals, the audio events in each track, the locate points (IN, OUT, TO, END), and a list of the virtual tracks. You can also change the **"Meter/Track Type"** setting to switch the type of level meters. You can choose **"FaderView"** to see the fader and pan values, or **"AllMeterView"** to see level meters for tracks 1–32 and for each line signal.



1. Display select button
Click this button to display the **Meter/Track Type** dialog box, where you can select the information you want to view. Click the **OK** button (or press the panel **YES** key) to apply your selections, or click the **Cancel** button (or press the panel **NO** key) to discard them.



1a. Select Level Meter Position **[CH-Input, PreFader, PostFader]**

CH-Input: Displays the input level of each mixer channel

PreFader: Displays the pre-fader level of each mixer channel

PostFader: Displays the post-fader level of each mixer channel

1b. Peak Hold Time **[0…8s, ∞]**
Specifies the amount of time that peaks will continue to be displayed in the level meter.
0…8s: 0–8 seconds
∞: Continue holding the peaks
This setting applies to the level meters in each page.

1c. Select View

[TrackView, FaderView, AllMeterView]

Changes the content of the meter display.

TrackView: Shows the level meters, existence of audio events, and a list of virtual tracks

FaderView: Shows the level meters, and fader / pan / channel-on status of each track

AllMeterView: Level meters for all channels, inputs 1–12, AUX, EFFECTR, RETURN, MONITOR, and MASTER

2. Level meters

These display the levels of the channels, sends, and monitor signals etc.

3. Track view window

In each track, regions that contain audio data are displayed in black.

The vertical line indicates the current location.

The top portion shows the locate points (→p.37).

IN:▼ OUT:▲ TO:▽ END:△

4. Time location display

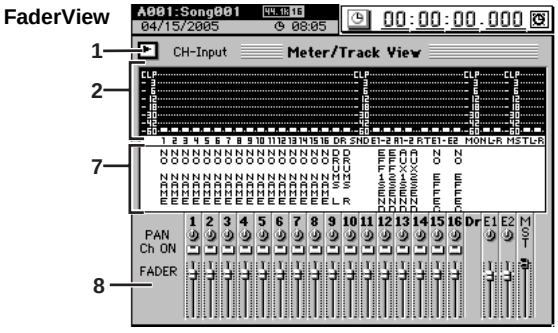
This bar indicates the entire song from the zero point to the end point. This gives a relative indication of the current location.

5. Track status window

This area shows the name of each track and the status of its virtual tracks. Virtual tracks displayed in black are currently in use.

6. Scale buttons

Use these buttons to magnify or shrink the area displayed in the track view window.



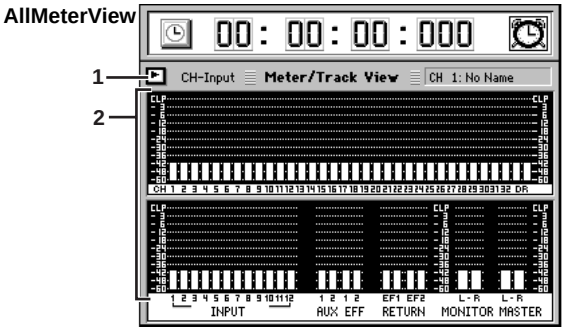
7. Name window

This displays the names of each track and of the master effects.

8. Pan/Fader view

Here you can view and edit the following parameters.

Faders, CH ON, pan, EFF 1/2 Return Level, EFF 1/2 Return Balance



2. MIXER

Here you can adjust the settings for the mixer section.

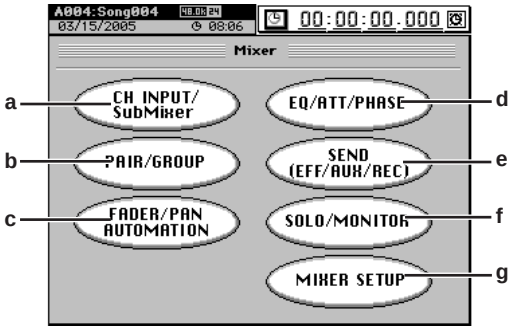
When you press the **MIXER** key, the MIXER page jump menu screen will appear.

Click the menu button that contains the parameters you want to edit.

To return to this page jump menu screen, press the **MIXER** key.

Press the **MIXER** key once again to return to the page you selected in the page jump menu.

Of these pages, you can use the **SEND**, **EQ**, and **PAN** keys located at the left of the control knobs to access the SEND, EQ, and PAN pages.



a. CH INPUT/SubMixer button

Opens the **CH INPUT/SubMixer** page mode screen. (see below)

b. PAIR/GROUP button

Opens the **PAIR/GROUP** page mode screen. (→p.102)

c. FADER/PAN/AUTOMATION button

Opens the **FADER/PAN/AUTOMATION** page mode screen. (→p.103)

d. EQ/ATT/PHASE button

Opens the **EQ/ATT/PHASE** page mode screen. (→p.107)

e. SEND (EFF/AUX/REC) button

Opens the **SEND (EFF/AUX/REC)** page mode screen. (→p.109)

f. SOLO/MONITOR button

Opens the **SOLO/MONITOR** page mode screen. (→p.110)

g. MIXER SETUP button

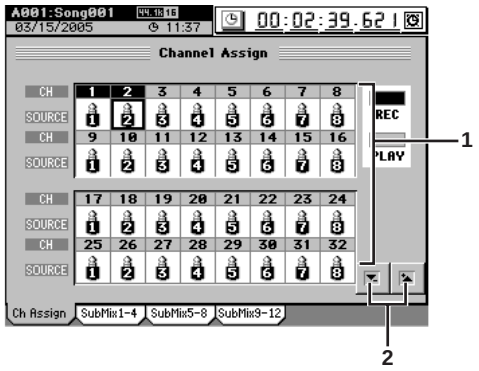
Opens the **MIXER SETUP** page mode screen. (→p.111)

2a. CH INPUT / SubMixer

2a-1. Channel Assign

Here you can specify the input for each mixer channel 1–32.

When you select a digital input such as S/P DIF, noise may occur if the digital data is not synchronized. You should turn down these faders or turn down the volume of your monitor system before you change these settings.



1. CH1…32 [1…12, S/P DIF L, R, Rhythm L, R]

The number of assignable channels will depend on the sampling rate and bit depth of the current song (→p.117).

Select a channel icon **"CH1"–"CH32,"** and then select the source that will be input to this channel.
The icon will be highlighted if the channel status is set to Record (REC).

INPUT 1…12: 1 … 12
The analog signal from an instrument etc. connected to the INPUT 1 / GUITAR IN–INPUT 12 jacks will be input to the mixer channel.

S/P DIF L, R: L , R
The digital signal from a device (e.g., DAT) connected to the S / P DIF IN jack will be input to the mixer channel.

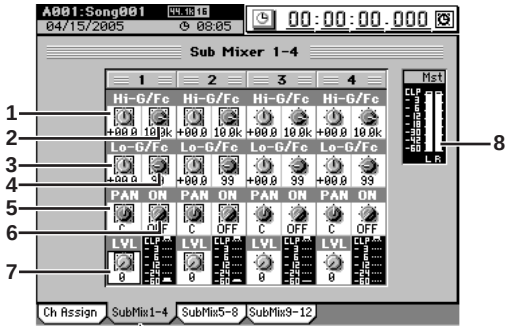
Drums L, R: ,
The pattern you selected for **"Session Drums"** will be input to each channel. If the "**Drums Track Mixer"** parameter **"Assign"** is set to **"CH Input"** and the **Click Monitor** button is on, you can record while listening to the rhythm (→p.143).

2. ▼ / ▲ buttons
Use these up / down buttons to select the INPUT source.

2a-2. Sub Mixer 1–4

These settings allow you to use the inputs as "sub inputs" for inputting the return from an external effect to the INPUT 1 / GUITAR IN–INPUT 4 jacks, or so that the sound of an instrument connected to these jacks can be mixed with the track playback. (→p.44)
After completing a song on the D3200, you can synchronize a sequencer to the D3200 and use sub inputs to mix the sequenced sounds with the track playback of the D3200.
These inputs are sent to the master bus.

Use the AUX jack to transmit the effect send to your external effect processor. (→p.109)



1. HIGH.G [–15 dB…+15 dB]
Sets the high-frequency gain of the sub input.

2. HIGH.Fc [21 Hz…20.1 kHz]
Sets the cutoff frequency at which the shelving-type EQ will adjust the high-frequency range of the sub input.

3. LOW.G [–15 dB…+15 dB]
Sets the low-frequency gain of the sub input.

4. LOW.Fc [21 Hz…20.1 kHz]
Sets the cutoff frequency at which the shelving-type EQ will adjust the low-frequency range of the sub input.

5. PAN [L63…C…R63]
Sets the panning at which the sub input will be sent to the master bus.

6. ON [ON, OFF]
Specifies whether the sub input will be sent to the master bus (ON) or not (OFF).

7. Level [0…100]
Specifies the level at which the sub input is sent to the master bus.

8. Level meter
Indicates the level of the master bus.

2a-3. Sub Mixer 5–8

These settings allow you to use the inputs as "sub inputs" for inputting the return from an external effect to the INPUT 5–INPUT 8 jacks, or so that the sound of an instrument connected to these jacks can be mixed with the track playback. (→p.44)
For the parameters, refer to the preceding section "2a-2. Sub Mixer 1–4."

2a-4. Sub Mixer 9–12

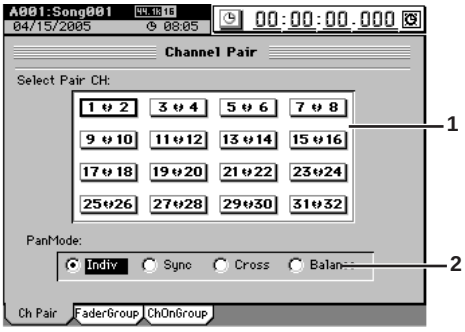
These settings allow you to use the inputs as "sub inputs" for inputting the return from an external effect to the INPUT 9–INPUT 12 jacks, or so that the sound of an instrument connected to these jacks can be mixed with the track playback. (→p.44)
For the parameters, refer to the preceding section "2a-2. Sub Mixer 1–4."

2b. PAIR / GROUP

2b-1. Channel Pair

Here you can specify pairing for adjacent mixer channels. For paired channels, the following parameters will operate in tandem and will have the same values for each channel.

Fader, Pan, CH ON, PlayEQ, RecEQ, RecSend, Eff 1/2 Send, Aux 1/2 Send, ATT, REC/PLAY, Group

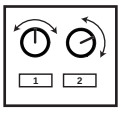


1. **Select Pair Ch** **[1♥2…31♥32]**
   Click the **1♥2–31♥32** buttons to select the channels that are paired (the heart icon ♥ will be displayed for paired channels).
2. **PanMode** **[Indiv, Sync, Cross, Balance]**
   Select how panning will occur.

   Indiv: The pan of the two channels will operate independently.
   Sync: The pan of both channels will be the same value.
   Cross: The two channels will have the opposite pan value.
   Balance: The pan control will function as channel balance.

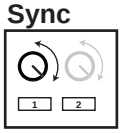
Operation when tracks 1 and 2 are paired

Indiv



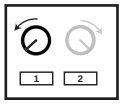
Pan 1 and 2 can be set independently.

Sync



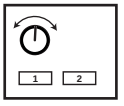
Sync If pan 1 is R63, pan 2 will also be R63.

Cross



Cross If pan 1 is L63, pan 2 will be R63.

Balance



Balance Pan knob 1 operates as the Balance knob.
Pan knob 2 has no effect.

2b-2. Fader Group

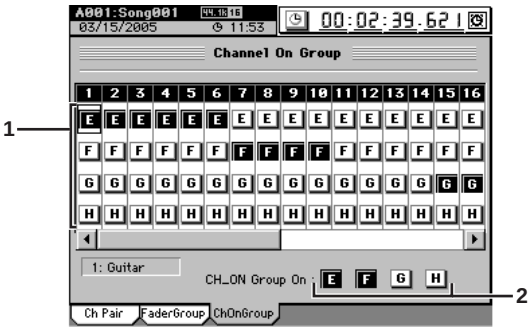
When you operate the fader of any channel that is assigned to a group, the other faders assigned to that group will also move, preserving the balance of the linked channels.
There are four groups, A through D. Each channel can be assigned to only one of these Fader groups.

1. **Group buttons** **[A, B, C, D]**
   These buttons select the fader group for each channel. To select the group, click the corresponding button (it will be highlighted).
   Use the scroll bar / button to move the range of channels that is displayed.
2. **Group on buttons** **[A, B, C, D]**
   Click (highlight) this if you want to enable a fader group. If a button is clicked (highlighted), the fader levels will maintain the balance between channels as they are adjusted.

note *When you turn on a 1. "Group button" to add a channel to an existing fader group, the level of the channel at that moment will be set as that fader's balance in the group.*

2b-3. Channel On Group

When you turn on the **CH ON** key of a channel that has been assigned to a Channel On group, other channels assigned to that group will also be turned on. There are four Channel On groups; E through H. Each channel can belong to no more than one of these Channel On groups.

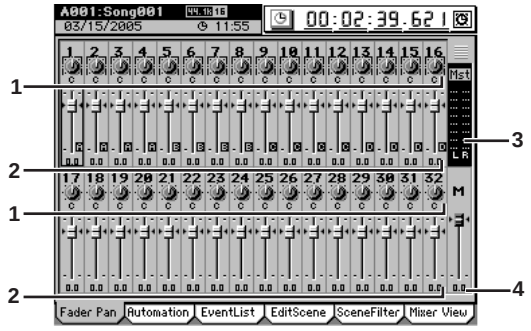


1. **Group buttons** **[E, F, G, H]**
   These buttons select the CH ON group for each channel. To select the group, click the corresponding button (it will be highlighted).
   Use the scroll bar / button to move the range of channels that is displayed.
2. **Group on buttons** **[E, F, G, H]**
   To enable CH ON grouping, click the corresponding button (highlighted). If these buttons are clicked, the faders will move to preserve the balance of the group when you operate any fader in that group.

note *When you turn on a 1. "Group button" to add a channel to an existing Channel On group, the on/off status of the channel at that moment will determine the on/off status for the group.*

2c. FADER / PAN / AUTOMATION

2c-1. Fader Pan



1. Channel pan [L63...C...R63]
This shows the pan setting for each channel. The value is shown below the icon.
Use the 1–16 key or 17–32 key to switch between channel groups, and use the Knob Matrix to set the pan for each group of sixteen channels.

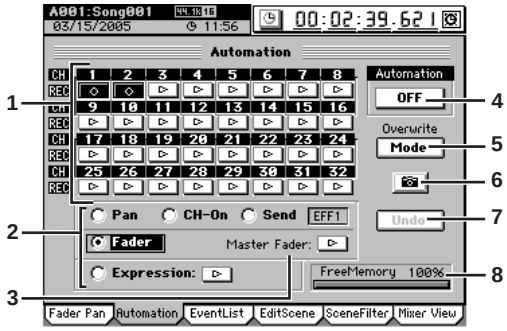
2. Channel fader [–∞…+6]
This shows the fader setting for each channel. The value is shown below the icon.
Use the 1–16 key or 17–32 key to switch between channel groups, and use the sixteen faders to set the value.

3. Level meter
This indicates the master L / R output level.

4. Master fader [–∞...+0]
This indicates the **MASTER** fader setting. The numerical value is shown below the icon.

2c-2. Automation

You can turn automation on and record the realtime changes you make to the mixer settings while the song plays or records.
The recorded automation can then automatically change the mixer settings during playback or recording.



1. Record channel buttons [◯, ▷]
Use these buttons to select the channels for which you want to record automation. Events will be recorded for each channel whose button you click to make it indicate ◯ (Rec) .

2. Record parameter buttons
[Fader, Pan, CH ON, Send, Expression]
Use these buttons to select the parameter for which you want to record automation. You can select only one parameter at a time; click a radio button to highlight the desired parameter.

*If you've selected Send, the parameter that is selected in the **Send** cell (**EFF1**, **EFF2**, **AUX1**, **AUX2**) when you begin recording will be recorded as automation. However, "6. SnapShot" will record all Send parameters.*

*If you select **Expression**, click the button located at the side to select ◯ (Rec) before you start recording.*

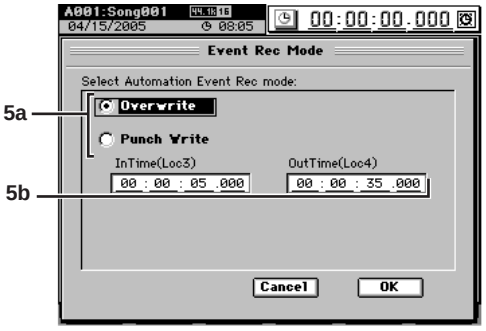
3. Master Fader [◯, ▷]
If you selected **"Fader"** as the record parameter, and you want to record the operations of the **MASTER** fader as well, click this button to make it indicate "◯" (Rec).

4. Automation
This button turns automation playback / recording on / off.
OFF: Automation playback / recording will not occur.
On (Play): Executes automation playback. The **Automation** indicator will light.
During song playback or recording, when the song reaches the location at which an event is recorded, that setting will be recalled, automatically changing the settings of the mixer. New automation events will not be recorded.
ON (Rec): Executes automation playback and event recording. The **Automation** indicator will light.
During song playback or recording, when the song reaches the location at which an event is recorded, that setting will be recalled, automatically changing the settings of the mixer. In addition, new events will be recorded for channels whose record channel button is set to ◯(Rec), according to the settings of the **Event Rec Mode** dialog box. When the recorder stops, this setting will automatically change to **ON (Play)**.

note *If automation is on and you have not stored any scenes, the **Default Scene** will automatically be selected. If you want to edit scene-related parameters, be sure to store the scene.*

5. Mode

When you click this button, the **Event Rec Mode** dialog box will appear, allowing you to select the automation recording method. Click the **OK** button (or press the panel **YES** key) to apply your selection, or click the **Cancel** button (or press the panel **NO** key) to cancel it.



5a. Recording mode

Overwrite: Automation data will be overwritten from the point you begin playing / recording the song until the point where you stop. If you do not record events, all the previously-recorded events will be erased.

Punch Write: Parameters you adjust between the In Time (the location where you begin recording events) and Out Time (the location where you stop) will be recorded.

5b. In Time, Out Time

If the recording mode is **"Punch Write"** and you selected a parameter other than Fader as the parameter to be recorded, these settings specify the locations at which event recording will begin and end.

6. SnapShot

Clicking this button when "4. Automation" is on and the recorder is stopped will record a "snapshot" of events for channels whose record channel button is set to ○ (Rec).

7. Undo

Click this if you want to revert the recorded automation to its prior state. You can revert to the state prior to the previous operation. If the button indicates **Redo**, you can use it to cancel the **Undo**.

note *You can use "2c-3. Event List" to make detailed changes to the recorded events.*

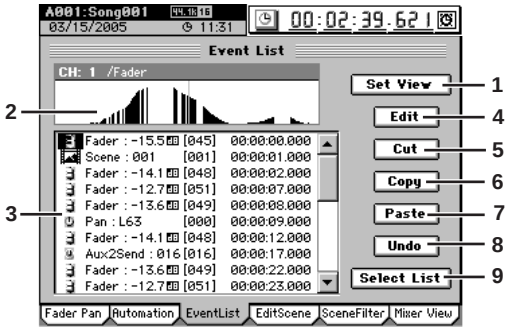
*This data is held in common with the "8. Undo" data of "2c-3. Event List." If you press the **Event List's Undo** button immediately after recording automation, not the most recent event edit but the previously-recorded automation will be erased.*

8. Free event memory amount

This indicates the amount of remaining memory in which you can record events.

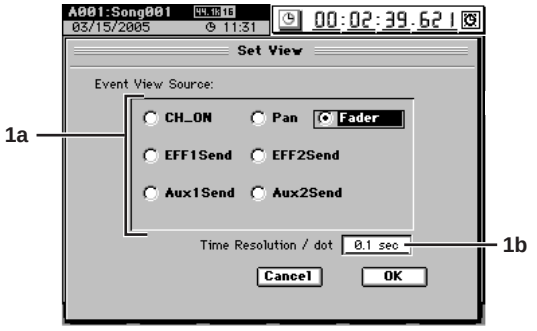
2c-3. Event List

Here you can view or edit the events and scenes that you recorded using automation.



1. Set View

Click this button to open the **Set View** dialog box. Click the **OK** button (or press the panel **YES** key) to apply your selections, or click the **Cancel** button (or press the panel **NO** key) to cancel them.



1a. Event View Source

Click a radio button to choose the parameter that will appear in the event view.

1b. Time Resolution/dot [0.05, 0.1, 0.2, 0.5, 1sec]

Specify the range that will appear in the event view. The range shown will be the time you specify here × 192.

2. Event view

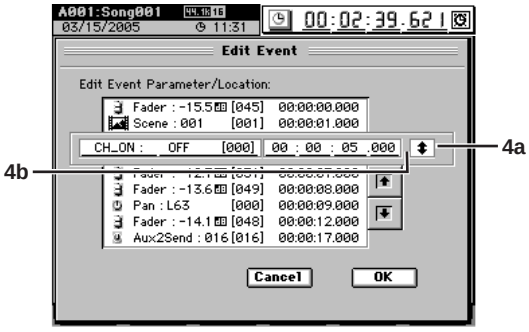
This area shows the events of the source you selected in Set View.

3. Event list

Displays the events selected in the "9. Select List." To edit an event, select (highlight) it by clicking it in the list.

4. Edit

Click this button to open the **Edit Event** dialog box.



4a. Event select button

Use this to select the event you want to edit. Click this button and use the **value dial** (or **+/–** keys) to make your choice.

4b. Parameter/Parameter value [MIDI value]/Location

Click the parameter or location (highlight) that you want to edit, and use the **value dial** (or **+/–** keys) to edit it.

The only way to edit a scene is to change its location. The values will not be updated until you click the **OK** button (or press the panel **YES** key) to confirm your edits.

5. Cut

Click this button to open the **Cut Event** dialog box. The selected event will be cut (deleted) from the event list. However, the event itself will be temporarily saved in the edit buffer (clipboard).

To execute the cut, click the **Yes** button (or press the panel **YES** key). To cancel, click the **No** button (or press the panel **NO** key).

To cut all events in the event list, click (highlight) the **Select All** button and then execute Cut.

6. Copy

Click this button to open the **Copy Event** dialog box. The selected event will be copied temporarily to the edit buffer (clipboard).

To execute the copy, click the **Yes** button (or press the panel **YES** key). To cancel, click the **No** button (or press the panel **NO** key).

To copy all events in the event list, click (highlight) the **Select All** button and then execute Copy.

7. Paste

Click this button to open the **Paste Event** dialog box. The event temporarily saved in the edit buffer (clipboard) will be pasted at the selected event.

To execute the paste, click the **Yes** button (or press the panel **YES** key). To cancel, click the **No** button (or press the panel **NO** key).

If the event at the paste-destination is the same type as the event that was Cut or Copied, it will be overwritten. If the event at the paste-destination is a different type, the pasted event will be added at that location.

If you paste multiple events (Select All), they will overwrite the existing data starting at the paste-destination you selected. However, only the types of event included in these multiple events will be overwritten.

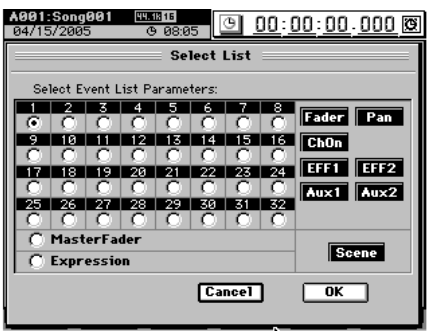
8. Undo

Click this button to return to the state prior to executing Cut, Copy, or Paste. This can be used only to return to the immediately previous state. If the button indicates **Redo**, you can use it to cancel the **Undo**.

*The data is held in common with the "7. Undo" data of "2c-2. Automation." If you click the **Automation Undo** button immediately after event-editing, the last event-edit will be undone – not the automation recording.*

9. Select List

Click this button to open the **Select List** dialog box. Here you can select the channel and parameter that will be displayed in the event list. You can select one (and only one) of channels 1–32, Master Fader, or Expression.



2c-4. Edit Scene

The mixer settings you adjust can be stored as a "scene" at a desired location, and automatically recalled during playback to change the mixer settings (when the "2c-2. Automation" setting **"Automation"** is on). You can also recall a scene when desired as a set of general-purpose settings (→p.50). You can store one hundred scenes for each song.

A scene may contain the following settings.

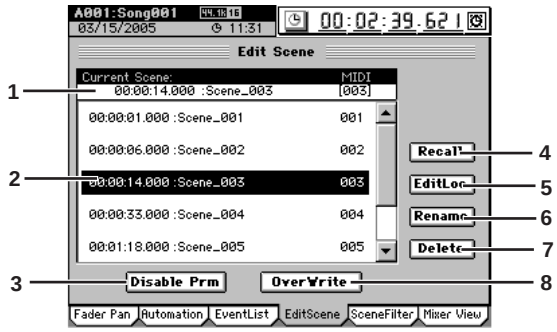
Channel parameters

CH ON, PlayEQ, ATT, sends, insert effect assignments, fader, pan

Effects

Effect program numbers and Trim of the insert, master, and final effects.

Effect return, MASTER fader, AUX levels, master EQ



1. Scene select cell

This area displays the currently selected scene (current scene).

note *If no scene is selected, the **Default Scene** will be selected.*

Choose a scene in the scene list and click the **Recall** button to select it.

From the left, this shows the edit icon, location, scene name, and MIDI program number.

The edit icon will appear if the scene has been edited until you click the **OverWrite** button.

If you turn off the power before clicking the **OverWrite** button, the edits you made will be lost, and the scene will revert to the state prior to editing.

2. Scene list

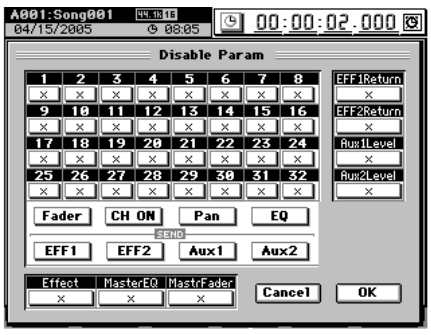
This area displays the scenes that have been stored.

From the left, the location, scene name, overlap warning icon "", and MIDI program number will be displayed for each scene. It is possible for there to be more than one scene at the same location, but an overlap warning icon reminds you to use caution when recalling these scenes.

note *If **Automation** is on, scenes that have this overlap warning icon will not play back.*

3. Disable Prm

Click this button to display the **Disable Param** dialog box.



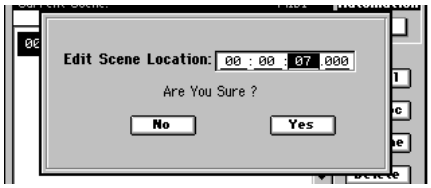
For each scene, you can filter specific mixer settings (parameters) so that they will not be recalled when that scene is played back.
Select the mixer parameters that will be disabled.
For the Fader, CH ON, Pan, EQ, EFF 1/2 sends and Aux 1/2 sends, you must also select which channels will have these parameters disabled.
If a parameter button is on (highlighted), filtering will apply to that parameter for the selected channels, so that those settings of the scene will be ignored.
If a button is off (i.e., filtering off), those settings of the scene will be applied.
Filtering is applied to the selected scene as a "playback filter."
The **EFF1/2 Return**, **Effect**, **Aux 1/2 Level**, **MasterEQ**, and **MasterFader** parameters can be disabled without regard to the channel.

note *Fader*, ***CH ON***, ***Pan***, ***EQ***, ***EFF1/2***, *and* ***AUX1/2*** *filter settings apply only to channels that are disabled (highlighted).*

note *If you want to enable/disable scene parameters for all the scenes in a song, use the* ***"SceneFilter"*** *tab page.*

4. **Recall**
Recalls the settings that are registered in a scene. If you recall and edit a scene, click the **Recall** button to save your edits. Otherwise, the scene will revert to the state prior to editing when you exit this screen.

5. **EditLoc**
Here you can change the location where the scene is stored.
In the scene list, select the scene whose location you want to edit.
Click the **EditLoc** button to display the **Edit Scene Location** dialog box, and edit the location at which the scene is stored.
Select (highlight) the location unit (e.g., hour, minute, second) that you want to edit, and use the value dial or **+/–** keys to edit the location.
Click the **Yes** button (or press the panel **YES** key) to apply your changes, or click the **No** button (or press the panel **NO** key) to discard your changes.



6. **Rename**
Here you can rename the scene.
In the scene list, select the current scene whose name you want to edit, and click the **Rename** button to display the **Rename** dialog box. You can assign a name of up to sixteen characters. (→p.99)

7. **Delete**
In the scene list, select the scene that you want to delete, and click the **Delete** button to display the **Delete Scene** dialog box.
By turning the **Select All** button on (highlighted) in the dialog box, you can delete all scenes in a single operation.
Click the **Yes** button (or press the panel **YES** key) to delete the scene(s), or click the **No** button (or press the panel **NO** key) to cancel the operation.

Undo is not available for this Delete operation.

8. **OverWrite**
Overwrites the current mixer settings onto the selected scene number. Use this when you want to make fine adjustments to the scene or replace it with a different scene.

2c-5. Scene Filter

These settings specify the parameters that will be modified when scenes are recalled. The enable / disable settings you make here will apply to all scenes of the song.

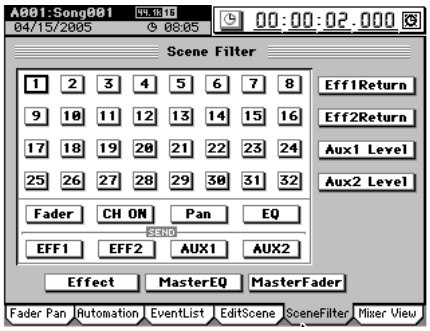
note *If you want to enable/disable parameters for a specific scene of the song, make settings in the* ***"EditScene"*** *tab page* ***3. Disable Prm****.*

Click the buttons to enable / disable the corresponding channels and / or parameters. A channel / parameter whose button is turned on will not be affected by scene recall operations. **EFF 1/2 Return**, **Effect**, **Aux 1/2 Level**, **MasterEQ**, and **MasterFader** parameters can be disabled independently of the channel.

note *Fader*, ***CH ON***, ***Pan***, ***EQ***, ***EFF 1/2***, *and* ***AUX 1/2*** *filter settings are valid only for channels that are disabled (highlighted).*

The ***Effect*** *button enables/disables and* ***Trim*** *the effect program number and insert effect assignments.*

The ***EFF 1/2 Return*** *button enables/disables the* ***Return Level*** *and* ***Balance*** *settings of the master effect 1/2.*

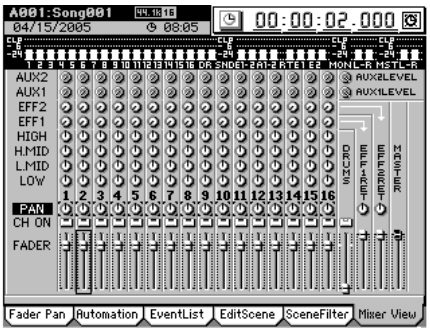


2c-6. Mixer View

You can use the Mixer View screen to check the settings of a scene.
Here you can view and edit the following parameters.

Faders, CH ON, pan, EQ LOW Gain/LOW MID Gain/ HIGH MID Gain/HIGH Gain, EFF1/2 Send, AUX 1/2 Send, AUX 1/2 LEVEL, EFF 1/2 Return Level, EFF 1/2 Return Balance, DRUMS

If you move the top panel faders and Knob Matrix to edit a parameter, the selection will move to the parameter you edited, and the screen will also change.
Use the 1–16 key and 17–32 key to select the sixteen-channel group you want to view.



2d. EQ / ATT / PHASE

Here you can adjust the equalizer, attenuator, EQ library, and phase settings for each channel, and adjust the master EQ settings.

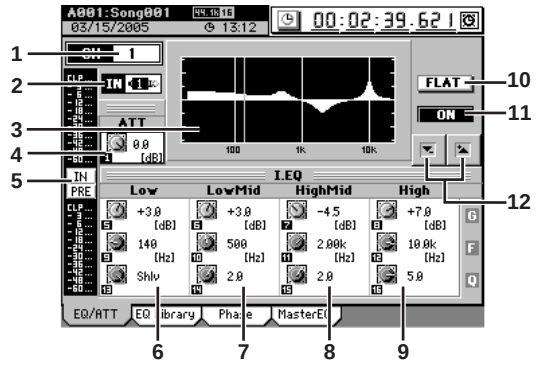
2d-1. EQ / ATT

For each channel you can edit the settings of the four-band equalizer and the attenuator. The equalizer is normally a peaking type, however the LOW EQ and HIGH EQ bands can be set to a shelving (Shlv) type.

Channels 24–32 and the sub mixer channels have a two-band shelving EQ.

Use the Knob Matrix to select and edit the four EQ bands.

Equalizer settings used here can be loaded from the EQ library, or registered in the EQ library (see the section below, "2d-2. EQ Library").



1. CH **[1…32]**
Click the edit cell that indicates the channel whose EQ you will edit, and use the **value dial** (or **+/–** keys) to select the desired channel.
Alternatively, you can press the **CH SELECT** key and then press a channel key to select the desired channel.
This channel is linked with **"CH"** in the **"EQ Library"** tab page.

note *If the selected channel's PLAY/REC status is PLAY, the screen will show the PlayEQ. If REC, it will show the RecEQ.*

2. IN/TR indicator
This indicates either IN or TR to show whether the current EQ is the PlayEQ or the RecEQ, and also shows the current input source.

3. EQ curve graph
A graphic representation of the EQ curve is shown here.

4. ATT **[–63.5 dB…0 dB]**
Here you can adjust the attenuator. Lowering this value will lower the level that is input to the EQ.

5. Level meter button
Each time you click the button, the position of the displayed level meter will change.

IN: Input level. The level input to the EQ is displayed.
PRE: Pre-fader level. The output level of the EQ is displayed.
PST: Post-fader level. The level after passing through the fader is displayed.

6. LOW G/F/Q
[–15 dB…+15 dB/21 Hz…20 kHz/0.1…10, Shlv]
Here you can adjust the gain, center frequency, and Q (filter sharpness) of the low-frequency region.
If you select Shlv as the Q value, this will become a shelving-type EQ; in this case the F value will be the cutoff frequency.

7. LOW-MID G/F/Q
[–15 dB…+15 dB/21 Hz…20 kHz/0.1…10]
Here you can adjust the gain, center frequency, and Q (filter sharpness) of the low-mid frequency region.

8. HIGH-MID G/F/Q
[–15 dB…+15 dB/21 Hz…20 kHz/0.1…10]
Here you can adjust the gain, center frequency, and Q (filter sharpness) of the high-mid frequency region.

9. HIGH G/F/Q
[–15 dB…+15 dB/21 Hz…20 kHz/0.1…10, Shlv]
Here you can adjust the gain, center frequency, and Q (filter sharpness) of the high-frequency region.
If you select Shlv as the Q value, this will become a shelving-type EQ; in this case the F value will be the cutoff frequency.

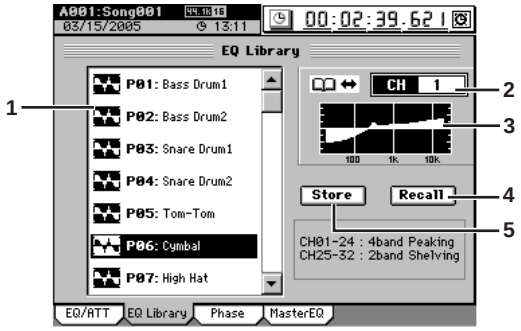
10. FLAT
Sets the Gain of each equalizer band to 0 dB. The EQ settings for that channel will be initialized.

11. ON/OFF
Switches the equalizer on / off. This allows you to listen to the signal with and without EQ quickly to check your settings.

12. ▼ / ▲ buttons
Use these up / down buttons to edit the parameter values.

2d-2. EQ Library

Here you can load EQ settings from the EQ library. You can also store EQ settings into the User area of the EQ library. There are 50 preset EQ setting programs, and 50 user EQ setting programs.
An EQ setting program stores parameters 6–9 of the preceding section "2d-1. EQ / ATT."



1. EQ library list
Click on the list to select an EQ setting program. The list shows the EQ setting program number (P** are presets, U** are user) and its name.

2. CH **[1…16]**
Click the edit cell that indicates the channel into which you will recall (or from which you will store) an EQ library item, and use the **value dial** (or **+/–** keys) to select the desired channel. Alternatively, you can press the **CH SELECT** key and then press a channel key to select the desired channel.
This channel is linked with **"CH"** of the **"EQ/ATT"** tab page.

3. EQ curve graph
The EQ curve of the selected EQ program is shown as a graph.

4. Recall
Loads the selected EQ program into the channel you selected in **2. "CH."**
Click the library list to select the EQ program that you want to load.

Click the button to display the **Recall** dialog box, verify the EQ program and the loading-destination channel, and click the **Yes** button (or press the panel **YES** key). If you decide not to load, click the **No** button (or press the panel **NO** key).

Since channels 25–32 have a two-band EQ with Low and High, loading a four-band EQ library item into these channels will have the following result.

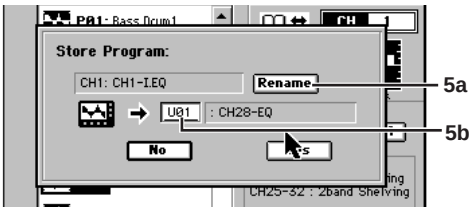
- *The LowMid and HighMid settings will be ignored.*
- *The Gain and Fc of the Low and High bands will remain as they are, but the Q will be forcibly changed to Shelving.*

5. Store

This stores the EQ settings of the **"EQ/ATT"** tab page into one of the user EQ programs.
The EQ settings of the channel selected by **2."CH"** will be stored.
A name will automatically be assigned to the stored EQ program.

i.e. The PlayEQ of channel 8: CH08-I.EQ
The RecEQ of channel 10: CH10-EQ

Verify the store-destination number and click the **Yes** button (or press the panel **YES** key). If you decide not to store, click the **No** button (or press the panel **NO** key).



5a. Rename

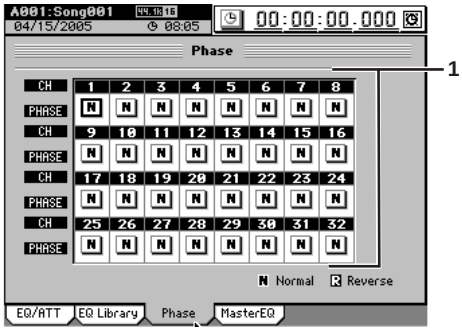
You can click this button to edit the name of the library program (→p.99).

5b. Program number cell

Here you can select the store-destination program number. Click the cell to highlight it, and use the **value dial** (or the **+/–** keys) to make your selection.

2d-3. Phase

You can invert the phase of each channel.
If one channel of the stereo signal from an audio device is being input via a jack whose hot and cold conductors are reversed, their stereo position may be blurred, or portions of the sound may be cancelled. This setting lets you invert the phase to correct such situations.



1. PHASE **[N, R]**

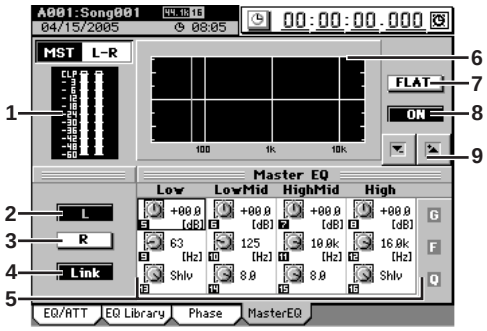
N (NormalPhase): The phase of this channel will not be inverted. Normally you will leave this at "N."
R (ReversePhase): The phase of this channel will be inverted.

note *On the D3200, pin 2 is hot and pin 3 is cold (→p.6). Set this to **"R"** if the connected audio device uses the opposite pin wiring.*

2d-4. Master EQ

Here you can adjust the equalizer settings for the master bus. This is an four-band peaking equalizer. The Low and High bands can also be set to a shelving-type (Shlv) EQ.
The master EQ is used as a Rec EQ for the master track.

*The master EQ cannot be used when playing back the master track or when using **"Solo→Master."***



1. Level meter

This indicates the level of the master bus.

note *If clipping occurs, adjust the **MASTER** fader.*

2. L

Selects the master EQ settings for the left channel.

3. R

Selects the master EQ settings for the right channel.

4. Link

Sets the left and right channels of the master EQ to the identical settings. You can adjust the settings from either the left or right channel.

5. Band 1…4 EQ G/F/Q
[–15 dB…+15 dB/21 Hz…20.1 kHz/0.1…10, Shlv*]

These parameters adjust the gain, center frequency, and Q (filter sharpness) of each band. Use the Knob Matrix to adjust the setting.

* By selecting Shlv as the "Q" value for the Low and High bands, you can switch them to shelving-type EQ; in this case the F value will become the cutoff frequency.

6. EQ curve graph

This graphically displays the EQ curve specified by these parameters.

7. FLAT

This sets the Gain of each band to 0 dB. The center frequency and Q settings for each band will remain unchanged.

8. ON/OFF

Switches the master EQ on / off. This turns both channels on / off regardless of the channel (L or R) you are currently editing.

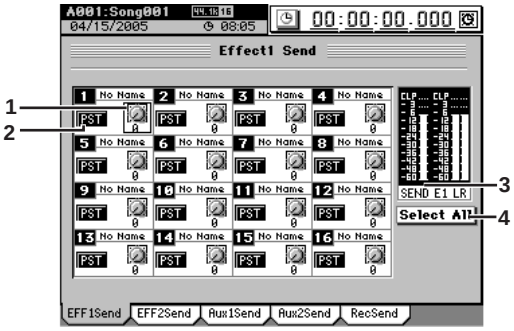
9. ▼ / ▲ buttons

Use these up / down buttons to edit the parameter values.

2e. SEND (EFF / AUX / REC)

2e-1. Effect 1 Send

You can adjust the send levels from each mixer channel to master effect 1.
If you select the pre-fader setting (**PRE**), the signal will be sent to the master effect from immediately before the fader, regardless of the fader level.
With the pre-fader setting, the signal is sent to the master effect at the same level as when the post-fader (**PST**) setting is used with the fader level set to unity (0 dB).



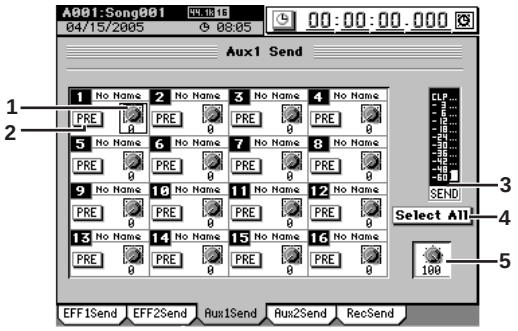
1. **SEND**
   Adjusts the send level. Use the Knob Matrix to adjust the setting.
2. **PRE/PST**
   This specifies whether the signal will be sent at the level immediately before the fader (Pre Fader) or the level immediately after the fader (Post Fader).
   PRE: Send the pre-fader level
   PST: Send the post-fader level
3. **LEVEL meter**
   Indicates the level of the Effect 1 Send bus and Effect 1 Return L/R bus.
4. **Select All**
   This links the operation of all channels.
   It will link the **PRE/PST** buttons and the **SEND** knobs.

2e-2. Effect 2 Send

Here you can adjust the send levels from each mixer channel to master effect 2.
For details on the parameters, refer to the section above, "2e-1. Effect 1 Send."

2e-3. Aux1 Send

You can adjust the send levels from each mixer channel to the AUX OUT 1 jack.
If you select the pre-fader setting (**PRE**), the signal from immediately before the fader will be sent to the AUX OUT jack regardless of the fader level.
With the pre-fader setting, the signal is sent to the AUX OUT jack at the same level as when the post-fader (**PST**) setting is used with the fader level set to unity (0 dB).
For details on connecting and using external effects, refer to p.57.



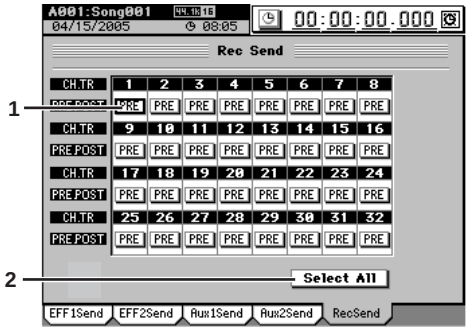
1. **SEND**
   Adjusts the send level. Use the Knob Matrix to adjust the setting.
2. **PRE/PST**
   This specifies whether the signal will be sent at the level immediately before the fader (Pre Fader) or the level immediately after the fader (Post Fader).
   PRE: Send the pre-fader level
   PST: Send the post-fader level
3. **AUX1 Send meter**
   Indicates the level of the AUX1 Out.
4. **Select All**
   This links the operation of all channels.
   It will link the **PRE/PST** buttons and the **SEND** knobs.
5. **AUX1 LEVEL**
   Adjusts the level of the AUX1 Out.

2e-4. Aux2 Send

Here you can adjust the send level that is output from each mixer channel to the AUX 2 jack.
For details on the parameters, refer to the section above, "2e-3. Aux1 Send."

2e-5. Rec Send

Here you can set the position from which signals will be sent from each mixer channel to the recording tracks.
If you select the pre-fader setting (**PRE**), the signal will be recorded at the level immediately before the fader, regardless of how the fader is adjusted.
With the pre-fader setting, the recording level will be the same as when the post-fader (**PST**) setting is used with the fader level set to unity (0 dB).

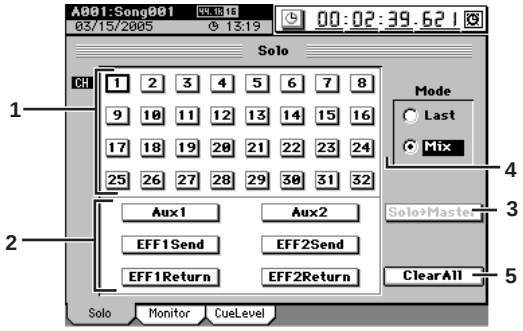


1. **PRE/PST**
   This specifies whether the signal will be recorded at the level immediately before the fader (Pre Fader) or the level immediately after the fader (Post Fader).
   PRE: Immediately before fader location
   PST: Immediately after fader location
2. **Select All**
   Links the **PRE/PST** buttons of all channels.

2f. SOLO / MONITOR

2f-1. Solo

Use this function when you want to listen to just one (or more) of the channels, or to check the audio being routed to the sends. The solo signal is output from the **MONITOR L/R** jacks and the **PHONES** jacks.
You can also adjust the settings so that the solo signal is output from the **MASTER L/R** jacks.



1. **CH buttons** **[1…32]**
   Use these buttons to turn the Solo function on (highlighted) or off for each channel. When one of these buttons is on, the D3200 will automatically switch to Solo mode, and the each channel key of that channel will blink. You can also Solo a channel by pressing the SOLO key on the panel. All of the channel keys will blink. Press the channel key for the channel you wish to solo.
2. **Send, Return buttons**
   Use these buttons to turn the Solo function on (highlighted) or off for each send or return.

   Aux1, Aux2:
   Solo the send signal to external output AUX 1, 2 jacks

   EFF1 Send, EFF2 Send:
   Solo the send signal to effects 1 or 2

   EFF1 Return, EFF2 Return:
   Solo the return signal from effects 1 or 2

   To adjust the volume of each signal, use the pages or knobs that adjust each signal.

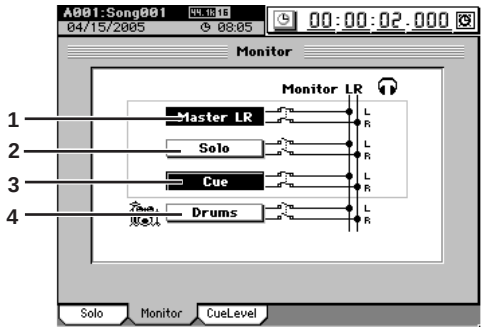
   Be aware that depending on the settings, changing these selections may cause a sudden change in the monitor volume.
3. **Solo→Master**
   This specifies whether the soloed audio will be output from the **MASTER L/R** jacks. Use this setting if your monitor system is connected to the **MASTER L/R** jacks and you want to listen to the soloed audio through these outputs.
4. **Mode**

   Last: Solo only the last-selected signal (multiple selections are not possible)
   Mix: Solo all selected signals (multiple selections are possible)

   If you switch from Mix to Last, all solo settings will be turned off.
5. **ClearAll**
   Turns all solo settings off.

2f-2. Monitor

Here you can select the audio signals that will be output from the monitor output (**MONITOR L/R** jacks) and headphone output (**PHONES** jack).



1. **Master LR**
   Sends the master LR bus to the monitor output. Normally you will select this.
2. **Solo**
   When you select a signal to be soloed in the **"Solo"** tab page, this will be selected automatically, and it will not be possible to select "**Master LR**" or "**Cue**." To select these items, you must first turn "Off" all soloed signals.
3. **Cue**
   Sends the signal specified by the **"Cue Level"** (see the section that follows) level and pan settings to the monitor output. If you select this when recording, you will be able to adjust the monitor volume and pan for comfortable playing, without affecting the recording level of the signal.
4. **Drums**
   The audio from the Session Drums will be sent directly to the monitor output. You can use this when you want to listen to the Session Drums through headphones as the rest of the audio tracks are output from the **MASTER L/R** jacks, for example during a live performance. Normally you will keep this turned off.

   *The drum sound will not be output unless the **Session Drums** channel key is on.*

   note *If you turn **Drums** on here, the **SESSION DRUMS "DrmsMixer"** tab page **"Assign"** setting will change to "**Monitor.**" If you turn **Drums** off, the **SESSION DRUMS "DrmsMixer"** tab page **"Assign"** setting will change to **"Master."***

2f-3. Cue Level

When **"Cue"** is turned on in the **"Monitor"** tab page, use the settings here to adjust the audio level and pan of each mixer channel.
During playback, the audio will be sent regardless of the channel on / off setting. During recording, audio will be sent only for channels whose **CH ON** keys are set to on.
Use the 1–16 key and 17–32 key to switch the display between sixteen-channel groups.

note *The audio that is set to Cue will be the playback signal if a track is playing, or the signal being recorded if the track is recording.*

1. **Pan** **[L63…C…R63]**
   Adjusts the panning of each channel's cue signal.
   You can click a knob icon and use the Knob Matrix to make settings for a group of sixteen channels.
2. **Level** **[0…100]**
   Adjust the level of each channel's cue signal.
   You can click a knob icon and use the Knob Matrix to make settings for a group of sixteen channels.

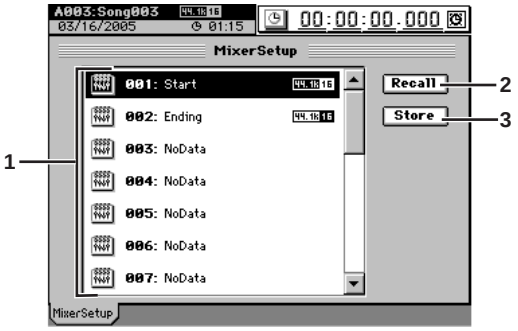
   note *Unity level is 100.*
3. **Level meter**
   This bar graph indicates the cue mix output volume.

2g. MIXER SETUP

Here you can save the current mixer settings, or recall previously-saved mixer settings.
This allows you to store mixer settings that you use frequently, and then recall them when creating a new song. You can also use this method to copy mixer settings to a different song.

A mixer setup contains the following parameters.

- **Channel Assign**, **Sub Mixer**, **REC/ PLAY**, and **MASTER TRACK STATUS**
- **Pair**, **Group**
- **Fader**, **Pan**, **Play/Rec EQ**
- **ATT**, **CH ON**, **Phase**, **AUX/EFF Send**, **Rec Send**
- Effect (all settings including the parameters being edited)
- Master Fader, **Master EQ**, **Send Out** level, Send **Select All**
- **Solo**, **Monitor**, **Cue**, drum pattern output assignment, drum pattern volume



1. **Mixer setup list**
   Click the screen to select the mixer setup program you want to use. The list shows the program numbers and program names.

   When the D3200 is shipped from the factory, mixer setup programs 1 through 20 are stored as "NoData." Recalling one of these programs will set the mixer to the same settings as when it is initialized (i.e., when you create a New Song).

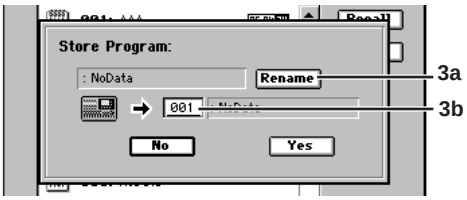
2. Recall

This button loads (recalls) a mixer setup program.
In the mixer setup list, click the program that you want to recall.
Click this button to open the **Recall** dialog box, verify the program that you are recalling, and click the **Yes** button (or press the panel **YES** key). If you decide not to recall the program, click the **No** button (or press the panel **NO** key).

A program you saved from a 44.1 kHz or 48 kHz song can be recalled to either a 44.1 kHz or a 48 kHz song.

3. Store

This button stores the current mixer settings as a mixer setup program.
Verify the store-destination number, and click the **Yes** button (or press the panel **YES** key). If you decide not to store, click the **No** button (or press the panel **NO** key).



3a. Rename

You can click this button and rename the mixer setup program (→p.99).

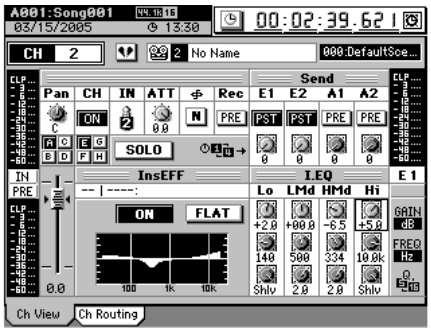
3b. Program number cell

This selects the store-destination program number.
Click this cell to highlight it, and then use the **value dial** (or **+/–** keys) to select the desired number.

3. CH VIEW

3-1. Ch View

This displays the settings and status for a single channel.
To select the channel that you want to view, press the **CH SELECT** key and then press the channel key of the desired channel.



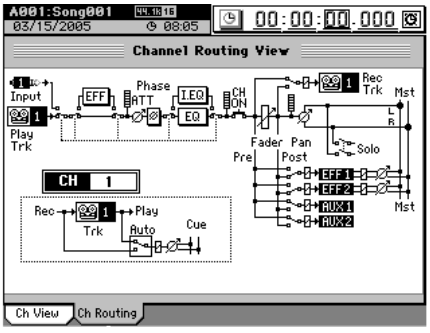
In this screen you can set the following parameters.

- Pairing (→p.102)
- Pan (→p.103)
- Channel on / off (→p.8)
- Input (→p.101)
- Attenuator (→p.107)
- Phase (→p.108)
- Recording location (→p.110)
- Solo on / off (→p.110)
- EQ on / off, flat (→p.107)
- Fader (→p.103)
- Level meter position (→p.99)
- Group (→p.102)
- Send (→p.109)
- EQ (→p.107)

To edit the Send and EQ parameters, use the Knob Matrix located below the display.

3-2. Channel Routing View

This displays a simplified signal flow for the channel shown in the **"Ch View"** tab page.
You cannot edit the settings here.
To select the channel that you want to view, press the **CH SELECT** key and then press the channel key of the desired channel.



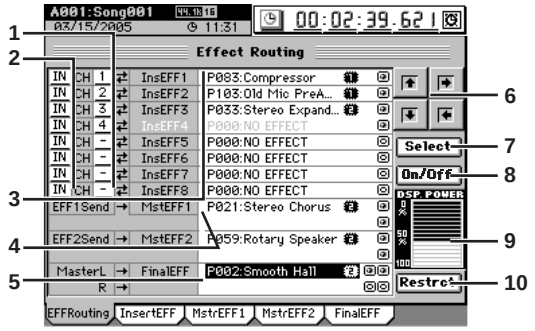
4. EFFECT

4-1. Effect Routing

This lists the effect programs used by the insert 1–8, master, and final effects, and shows their status.
The D3200 lets you simultaneously use up to eight insert effects, two master effects, and one final effect.

The number of simultaneously usable effects will differ depending on the size of the effect programs, and on how they are assigned.

In this screen you can also select effect programs and edit some of their parameters.
To select a program, use the value dial or click the **Select** button in the screen and choose from a list of effect programs by category.



1. CH **[1…32]**
Selects the channel to which each insert effect 1 through 8 will be applied.

2. Insert effect location **[IN, TR]**
Selects whether each insert effect 1 through 8 will be applied to the input (IN) or to the playback track (TR).

3. Insert EFF 1…8
Selects the program for each insert effect 1 through 8. A maximum of eight different effects can be used.
The cells indicate the currently selected program number, effect name, effect size icon, control icon (only if specified), and on / off icon.
The letter **"E"** is displayed at the beginning of the effect number to indicate an effect that is being edited.

: Effect size icon
Indicates the DSP size of the effect.

: Control icon
Indicates an effect to which effect control is assigned.

/: On/off icon
Indicates the on (enabled) or off (disabled) status of the effect.

For the possible combinations and how they will operate, refer to "Effects that can be used simultaneously" (→p.114).

Due to the input/output structure of the mixer, you cannot use a stereo program for insert effect 8.

4. MasterEFF 1, 2
Here you can select a program for master effects 1 and 2. The cells indicate the currently selected program number, effect name, effect size, control icon (only if specified), and on / off icon.

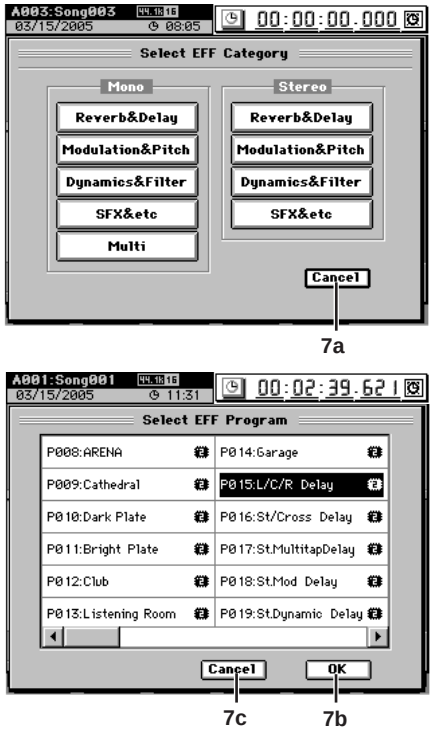
You cannot use a mono effect program for MasterEFF 1 or 2.

5. FinalEFF
Here you can select a program for the final effect. The cells indicate the currently selected program number, effect name, effect size, control icon (only if specified), and on / off icon.

*You cannot use a mono effect program for **FinalEFF**.*

6. Navigation buttons
Use these to select parameters within the page.

7. Select
Choose the effect you want to use, and then click this button to display the **Select EFF Category** dialog box. Choose the desired category, and use the **Select EFF Program** dialog box to select the effect program that you want to use.



7a. Cancel
Returns to the **"EFFRouting"** tab page without selecting a category.

7b. OK
After selecting an effect program, click this button to confirm your selection and return to the **"EFFRouting"** tab page.

7c. Cancel
Returns to the **Select EFF Category** dialog box.

8. On/Off
This button switches the currently selected (highlighted) effect on / off. This will affect the amount of DSP Power that is used. Pressing this button will turn the highlighted effect on (as long as there is sufficient DSP Power) or off.

9. DSP Power indicator
This shows the DSP Power level. This will indicate 0% if no DSP Power at all is being used, or 100% if all of the DSP Power is being used.

10. Restrct (Restructure)
This button frees up the DSP power of "dead effects" that are in an unusable state due to their assignments. An effect that is in an unusable state is indicated by the dead icon "".

Effects that can be used simultaneously

The effect programs used by the D3200's effects are classified as being different "sizes" according to the amount of DSP processing power they consume.
Effect programs that allow up to eight insert effects to be used are called "size-one" effects. Relative to these, some effect programs are "size-two" and others are "size-four."
The size of an effect program is shown by the icon at the right of the effect name.
One "size" corresponds to one of the on / off icons in each effect cell.

The maximum size that can be used simultaneously is 16.

Techniques for assigning effects

On the D3200, effects assigned to the upper rows of effect cells will be given higher priority for being turned on. This means that depending on how programs are assigned, you may need to use the **Restrct** button or the **On/Off** buttons to make adjustments while watching the DSP Power indicator, in order to make the best use of the available effects.

note *The priority order also applies to the groupings of Insert, Master, and Final effect. For example if you assign a size-four program to insert effect 7, this will occupy insert effects 7 and 8 and master effect 1, meaning that you will not be able to assign a program to master effect 1.*

note *To cancel an effect, cancel its channel assignment, and also select NO EFFECT as the effect.*

Using the Restrct button

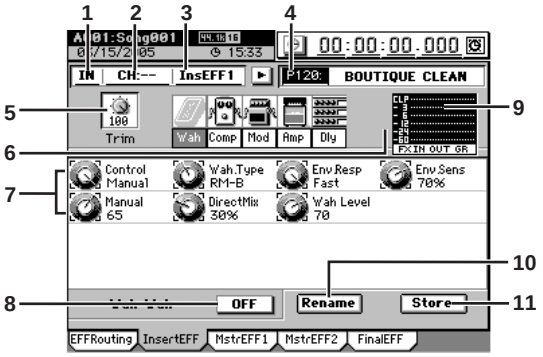
Due to the priority scheme discussed above, if you make many changes to your effect routings, it is possible to end up with DSP power applied where it cannot be used. The "Restructure" function can recover this DSP power so it can be used for another effect. The following example describes how this works.
First assign a size-one effect to insert effect 1, and a size-two effect to insert effect 2.
Next, let's suppose that you assign a size-two program to insert effect 1.
When you do so, insert effect 2 (whose priority is lower) will be masked by effect 1; you will unable to turn insert effect 2 off, and insert effect 3 will be unavailable.
In this state, insert effect 2 is a "dead effect." The on / off icon of the effect will change to the dead effect icon "☠".
In this case you can click the **Restrct** button to release the dead effect so that insert effect 3 will again be available, and the wasted DSP power will be recovered.

Using the On/Off button

If an effect that you actually what to use is turned off due to lack of DSP power, you can turn off one or more effects that are unintentionally on in order to allocate the necessary size, and then turn the desired effect on. When doing so, watch the DSP Power indicator as you choose the effect(s) to turn on or off.

4-2. Insert EFF

You can apply insert effects to input sources during recording, or to tracks during playback.
You can use a total of up to eight insert effects. You can use the Knob Matrix located below the LCD screen to edit the parameters that are shown as knob icons.



1. **Insert effect location** **[IN, TR]**
   Selects whether the insert effect will be applied to the input (IN) or to the track playback (TR).
2. **CH** **[1…32]**
   Selects the channel to which you will apply the insert effect.
3. **Insert effect select**
   Select the insert effect (1–8) that you want to edit.

   note *Alternatively, you can press the **CH SELECT** key and then press the **Channel Key** of the desired channel to select the insert effect assigned to that channel. If you select a channel to which no insert effect is assigned, the selection will not change.*
4. **Insert effect program**
   Use the **value dial** to select an effect program, or click the popup button in the screen and choose from a category list of effect programs.
   If the selected program has been edited, the program number's **P** (preset), **U** (user), or **S** (song) indication will change to **"E,"** indicating that the program has been edited.
5. **Trim knob** **[0…100]**
   With a setting of 100, the level will be the same as the input level.
   Lower this level if an excessive input level causes distortion when an effect is applied.
6. **Effect chain display**
   This shows the chain of effects that make up the effect program. When you select (highlight) one of these effects, the editable parameters will appear in "7. Knob icons."
7. **Knob icons**
   Use these knobs to edit the parameters of each effect. The parameters and range of values will depend on the effect and parameter. You can turn the Knob Matrix (located below the LCD screen) to edit the value of the corresponding parameter.
8. **ON/OFF**
   This is an on / off switch for the selected effect within the effect chain.
   If the button is **OFF**, that effect will be bypassed.
9. **Level meter**
   This shows the input / output level of the effect and the GR (gain reduction) level.

10. Rename

This lets you rename the effect program.
Select the effect program that you want to rename, click the **Rename** button to open the dialog box, and edit the name. You can assign a name of up to sixteen characters (→p.99).

After renaming the program, use "11. Store" to store it. The effect program name you edited will be discarded if you don't use to store it.

11. Store

This stores the effect program with its edited parameters and name.
In the D3200 there are 128 user effect programs that can be used by all songs, on any song drive; and 32 song effect programs that are specific to each individual song.
Click the button to display the **Store Program** dialog box.

Click the **"Area"** list button to select U (User) or S (Song). Then click the number cell and use the **value dial** (or **+/–** keys) to select the save-destination number.

note *When choosing the store-destination, choose "U" for programs that you intend to use in other songs as well, and choose "S" for programs that will not be used in other songs or that would cause problems if they were modified.*

To execute the store operation, click the **Yes** button (or press the panel **YES** key). To cancel, click the **No** button (or press the panel **NO** key).
When you save, the new data will overwrite the data previously stored in that number, and the previous settings will be lost.

If you overwrite an effect program that was being used when you stored a scene, be aware that the playback may not sound with the settings you intended.

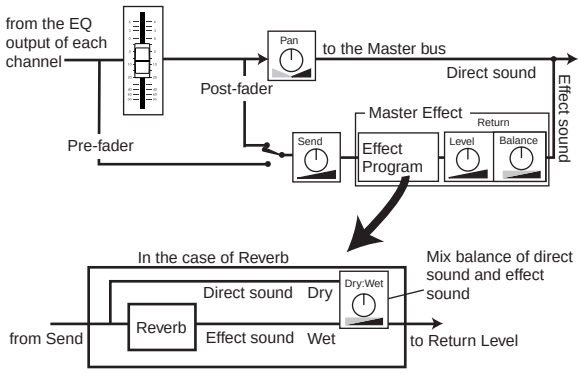
4-3. Master EFF1

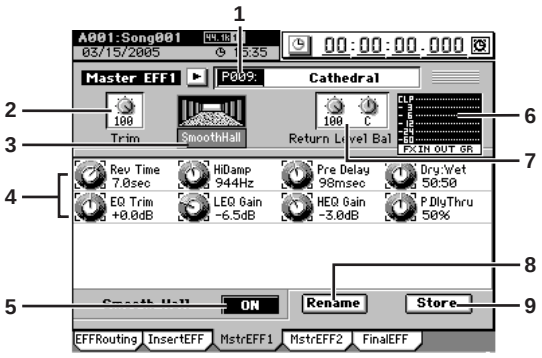
Master effects are used by adjusting the level of the signal being sent from each channel to the master effect in order to create overall depth and balance.
You can use the Knob Matrix located below the LCD screen to edit the parameters that are shown as knob icons.

Notes about using the master effects

The master effects process the signals sent to them via the effect send control of each channel, and send the processed signal to the effect bus. This means that the direct sound sent from each channel to the master bus will be mixed with the effect sound.
In the case of effects such as reverb or chorus that internally mix the effect sound and the direct sound together before the output, the direct sound passed through the effect will be added to the direct sound sent directly from each channel, meaning that the balance between the direct and effect sound will not be correct.
In such cases, set Dry:Wet (a parameter that adjusts the balance of the effect sound and direct sound) so that the effect will output only the processed (WET) sound. With this setting, the master effect return level will correctly control the mix balance of the effect sound.
If you want to use a master effect as an insert effect, set the send location of the send channel to pre-fader (Pre) and lower the fader to -infinity so that no direct sound will be sent to the master bus. With this setting, the mix balance between the effect sound and dry sound will be controlled by the master effect parameter (Dry:Wet).

Signal flow for the master effect





1. Effect program selection

To select an effect program, use the value dial, or click the popup button in the screen and choose from the list of effect programs displayed by category.
If the selected program has been edited, the program number's **P** (preset), **U** (user), or **S** (song) indication will change to **"E,"** indicating that the program has been edited.

2. **Trim knob** **[0…100]**
With a setting of 100, the level will be the same as the input level.
If distortion is caused by an excessively high input level when you apply the effect, use this parameter to lower the input level.

3. **Effect chain display**
This shows the chain of effects that make up the effect program.

4. **Knob icons**
Use these to edit the parameters of each effect.
For details, refer to "4-2. Insert EFF" (→p.114), 7. Knob icons.

5. **ON/OFF**
This is an on / off switch for the selected effect within the effect chain.
If the button is **OFF**, that effect will be bypassed.

6. **Level meter**
This shows the input / output level of the effect and the GR (gain reduction) level.

7. **Effect return**
Sets the effect return level and balance.

8. **Rename**
Use this to rename an effect program.
For details, refer to "4-2. Insert EFF" (→p.115), 10. Rename.

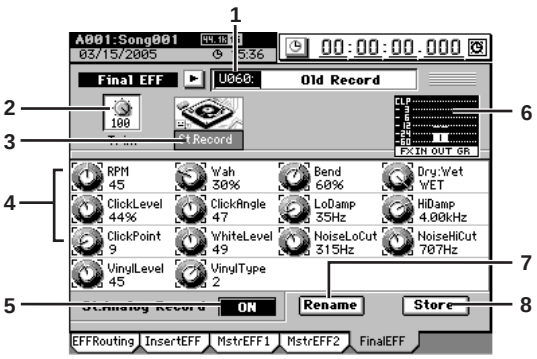
9. **Store**
Use this to store the effect program whose parameters or name you have edited.
For details, refer to "4-2. Insert EFF" (→p.115), 11. Store.

4-4. Master EFF2

For details on the parameters, refer to the section above, "4-3. Master EFF1."

4-5. Final EFF

The final effect is used to make final adjustments to the overall sound in the last stage of the master bus. Here you can use one stereo effect program.
You can use the Knob Matrix located below the LCD screen to edit the parameters that are shown as knob icons.



1. **Effect program selection**
To select an effect program, use the value dial, or click the popup button in the screen and choose from the list of effect programs displayed by category.
If the selected program has been edited, the program number's **P** (preset), **U** (user), or **S** (song) indication will change to **"E,"** indicating that the program has been edited.

2. **Trim knob** **[0…100]**
With a setting of 100, the level will be the same as the input level.
If distortion is caused by an excessively high input level when you apply the effect, use this parameter to lower the input level.

3. **Effect chain display**
This shows the chain of effects that make up the effect program.

4. **Knob icons**
Use these to edit the parameters of each effect.
For details, refer to "4-2. Insert EFF" (→p.114), 7. Knob icons.

5. **ON/OFF**
This is an on / off switch for the selected effect within the effect chain.
If the button is **OFF**, that effect will be bypassed.

6. **Level meter**
This shows the input / output level of the effect and the GR (gain reduction) level.

7. **Rename**
Use this to rename an effect program.
For details, refer to "4-2. Insert EFF" (→p.115), 10. Rename.

8. **Store**
Use this to store the effect program whose parameters or name you have edited.
For details, refer to "4-2. Insert EFF" (→p.115), 11. Store.

5. SEND

Operation is the same as when you press the MIXER key and click the SEND (EFF / AUX / REC) button in the page jump menu screen. For the parameters, refer to "2e. SEND (EFF / AUX / REC)" (→p.109).

6. EQ

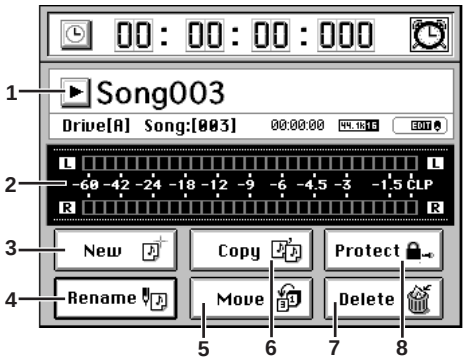
This displays the 2d-1. EQ / ATT tab page. For the parameters, refer to "2d-1. EQ / ATT" (→p.107).

7. PAN

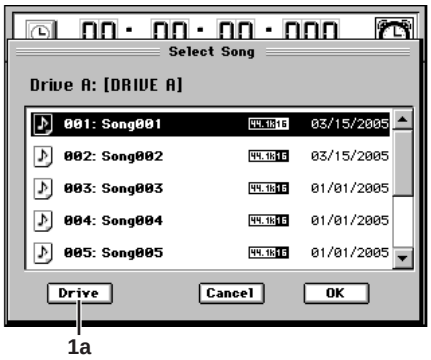
This displays the 2c-1. Fader Pan tab page. For the parameters, refer to "2c-1. Fader Pan" (→p.103).

8. SONG

Here you can select or edit a song. The screen shows information about the currently selected song.
The screen shows the song name, drive name, song number, song time, sampling frequency, bit depth, and protect setting.

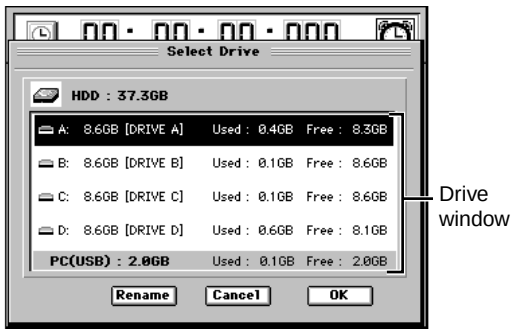


1. Song select button
Click this button to open the **Select Song** dialog box.



Click to highlight the name of the desired song.
Click the **OK** button (or press the panel **YES** key) to execute your selection. If you decide not to change songs, click the **Cancel** button (or press the panel **NO** key).

If you want to select a song from a different drive, click the **Drive** button and select the desired drive.


Select Drive
HDD : 37.3GB
A: 8.6GB [DRIVE A] Used : 0.4GB Free : 8.3GB
B: 8.6GB [DRIVE B] Used : 0.1GB Free : 8.6GB
C: 8.6GB [DRIVE C] Used : 0.1GB Free : 8.6GB
D: 8.6GB [DRIVE D] Used : 0.6GB Free : 8.1GB
PC(USB) : 2.0GB Used : 0.1GB Free : 2.0GB
Rename
Cancel
OK
Drive window

1a. Drive **[I, A…D]**
Here you can choose the current drive. When you click this button, the **Select Drive** dialog box will appear.

In the drive window, click a drive name to select it.
Click the **OK** button (or press the panel **YES** key) to confirm your selection. If you decide not to change drives, click the **Cancel** button (or press the panel **NO** key).

If you want to rename the song drive, click the **Rename** button to display the **Rename** dialog box, and edit the song drive name. You can input a name of up to sixteen characters. (→p.99)

2. Level meter
This indicates the level that is being sent from the OUTPUT jacks.

3. New
Click this button to create a new song in the currently selected drive. The new song will be created following the last song in the current drive.
The **New Song** dialog box will appear when you click this button. Use the radio buttons to specify the sampling frequency and bit depth for the new song, and click the **OK** button (or press the panel **YES** key).

3a. Song Type **[44.1 kHz/16 bit, 48 kHz/16 bit, 44.1 kHz/24 bit, 48 kHz/24 bit]**
Specify the sampling frequency and bit depth for the newly created song.
The type you select will determine the minimum of tracks that can be simultaneously recorded, played, or punch-recorded.

Maximum number of simultaneous tracks by Song Type

Song Type	Recording	Playback	Punch recording
44.1 kHz/16-bit	16*	32	8
48 kHz/16-bit			
44.1 kHz/24-bit	12**	16	4
48 kHz/24-bit			

note **16 channels is the maximum, combining 12 analog inputs, + 2 digital inputs (S/P DIF L, R), + 2 Session Drums (L, R). **12 channels using any combination of analog inputs, digital inputs and Session Drums.*

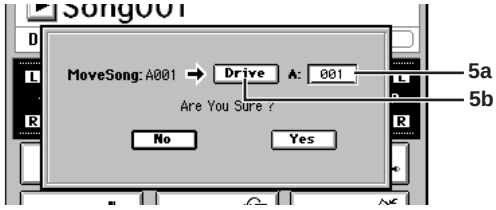
*You can change the **"Song Type"** (sampling frequency/bit depth) only when creating a new song.*

It is not possible to continuously record for more than 12 hours.

4. Rename
Here you can rename the currently displayed song.
Click the button to display the **Rename** dialog box, and edit the song name. You can input a name of up to sixteen characters. (→p.99)

5. Move
This operation moves the selected song to another song number of the drive you specify.
When you click this button, the **Move Song** dialog box will appear. Click the **Yes** button (or press the panel **YES** key) to execute the move, or click the **No** button (or press the panel **NO** key) to cancel. When the move operation is finished and the display indicates **"Completed,"** click the **OK** button (or press the panel **YES** key).

Undo will not be available if you move to a song drive other than the currently selected drive.

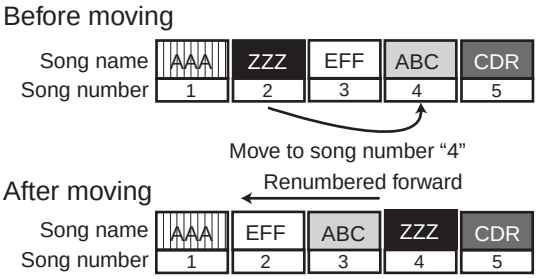


5a. Move-destination song number cell

This shows the drive that contains the selected song, and lets you select the song number.

If you're moving a song within the same song drive, the selectable numbers will be the number of existing songs. If you're moving a song to a different song drive, the selectable numbers will range from "001" to one greater than the number of existing songs.

When you execute the move, no data will be overwritten. If the move-destination number you selected is higher than the move-source number, preceding song numbers will be renumbered forward. If the move-destination number is lower than the move-source number, subsequent song numbers will be renumbered down by one.



5b. Move-destination drive

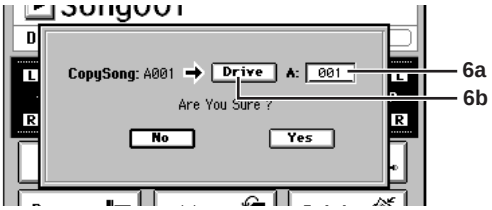
If you want to move the song to a different drive, click this button to open the **Select Drive** dialog box. Select the desired drive, and click the **OK** button (or press the panel **YES** key).

When you move a song to another drive, song numbers will be adjusted in the same way as for the Copy operation.

6. Copy

This operation copies the currently selected song to another song number in the desired drive.

When you click this button, the **Copy Song** dialog box will appear.



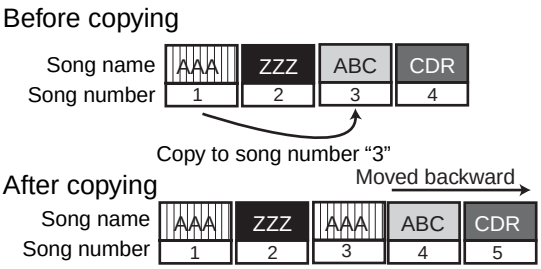
Click the **Yes** button (or press the panel **YES** key) to execute the copy, or click the **No** button (or press the panel **NO** key) to cancel. When the copy operation is finished and the display indicates **"Completed,"** click the **OK** button (or press the panel **YES** key).

This Copy operation cannot be undone.

6a. Copy-destination song number cell

This shows the copy-destination drive, and lets you select the song number. You can select a number in the range of "001" through "existing song numbers + 1".

When you execute the copy, the song will be copied to the copy-destination song number. If the copy-destination is an existing song number, it will not be overwritten; that song and subsequent songs will be renumbered upward by one as shown in the diagram below.



6b. Copy-destination drive

If you want to copy the song to a song drive other than the current drive, click this button to open the **Select Drive** dialog box. Select the desired drive and click the **OK** button (or press the panel **YES** key).

7. Delete

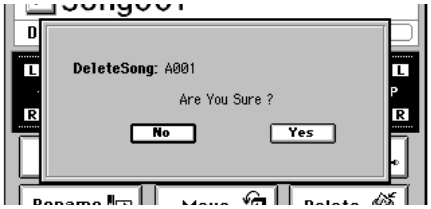
This operation deletes the current song.

When you click this button the **DeleteSong** dialog box will appear. Click the **Yes** button (or press the panel **YES** key) to delete the song, or click the **No** button (or press the panel **NO** key) to cancel.

When you execute this operation, the selected song will be deleted and subsequent songs will be renumbered forward.

When the song has been deleted and the display indicates **"Completed,"** click the **OK** button (or press the panel **YES** key).

This Delete operation cannot be undone.



8. Protect

Writing, deletion, or editing of the current song can be prohibited (protect on) or allowed (protect off).

When protect is on, it will not be possible to rewrite the parameters or data of that song; e.g., an error message will appear if you attempt to record.

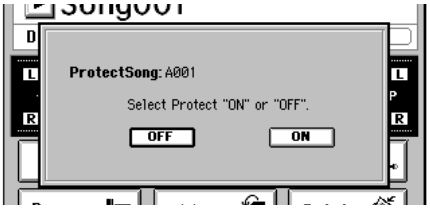
The song will automatically be saved when you turn this protect setting on.

When you click this button, the **Protect** dialog box will appear. Click the **ON** button to turn protect on, or click the **OFF** button to turn protect off. When the protect setting has been applied and the display indicates **"Completed,"** click the **OK** button (or press the panel **YES** key).

When protect is on, a protect symbol (🔒) will appear following the sampling frequency indication of the song.

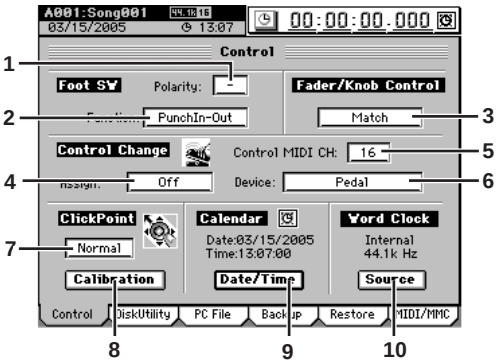
If protect is on, adjustments to the faders or EQ will be reflected during editing, but will not be recorded.

This Protect operation cannot be undone.



9. SYSTEM / MIDI

9-1. Control



1. Polarity **[–, +]**

Specifies the polarity of the foot switch.
Connect a foot switch (separately sold option: PS-1 or equivalent) to the rear panel FOOT SW jack, and set this parameter so that the "👣" symbol lights when you press the foot switch.

2. Function **[PunchIn-Out, Mark, PlayStop]**

Selects the function that will be controlled by the foot switch.

PunchIn-Out

The foot switch will alternately start or stop manual punch-in / out recording. Press the **PLAY/REC** key, and use the **channel key** of each channel to select REC mode for the track(s) you want to record. Then start playback. Recording will begin from when you press the foot switch, and will end when you press the foot switch again.

Mark

When you press the foot switch, a mark will be registered at that location. While this tab page is displayed, the foot switch is used to detect the polarity, and will not perform the assigned function. While you are recording tap tempo, the foot switch will perform tap input regardless of the setting here.

Play/Stop

Switch between playback start and stop. Press the foot switch to start playback, and press it again to stop playback.

3. Fader/Knob Control **[Match, Jump]**

Due to a variety of factors - automation, loading scenes, editing with the value dial etc. - the current parameter values may not match the current position of the physical faders or the Knob Matrix.
In such cases, the setting you select here will determine the way in which the parameter values will be made consistent with fader or Knob Matrix movements.

Match: After a fader or Knob Matrix knob reaches the value stored for that parameter, then the value will smoothly change to reflect the current knob or fader position.

Jump: Parameter values will jump to the fader or knob's position the instant the fader or Knob Matrix knob is moved.

4. Control Change Assign
[Off, InsertEFF1…8, MasterEFF1, 2, FinalEFF]

Here you can select the effect that you want to control.
The effect you select here can be controlled by "6. Device."

Off:

No effect will be controlled.

InsertEFF1…8:

Control an insert effect 1, 2, …8 respectively.

MasterEFF 1, 2:

Control master effect 1 or 2.

FinalEFF:

Control the final effect.

If the effect program you are using has no control function, it cannot be controlled. Nor is control possible unless Ctrl is turned on (→p.114) in the effect chain display for that effect program.

5. Control MIDI CH **[1…16]**

Specifies the channel that will be used to control the internal effect via MIDI.
Set this to the MIDI channel that you are using for control.

6. Device
[Pedal, After Touch, Pitch Bend, Velocity, Note Number, CC#000…119]

Selects the external device that will control one of the D3200's internal effects. The effect you specify in 3. "Control Change Assign" can be controlled in realtime.

Pedal:

An expression pedal will control the effect. Connect an expression pedal (such as the separately sold XVP-10 or EXP-2) to the **EXPRESSION PEDAL** jack, and move the pedal to control the effect.

After Touch, Pitch Bend, Velocity, NoteNumber:

MIDI aftertouch, pitch bend, velocity, or note number data will control the effect.
Connect the MIDI OUT of an external MIDI device to the D3200's MIDI IN connector, and transmit the appropriate MIDI data from the external MIDI device to control the effect.

CC (Control Change) #000…119:

A MIDI control change number will control the effect.
Connect the MIDI OUT of an external MIDI device to the D3200's MIDI IN connector, and transmit the appropriate MIDI control change message from the external MIDI device to control the effect.

7. ClickPoint **[Slow, Normal, Fast]**

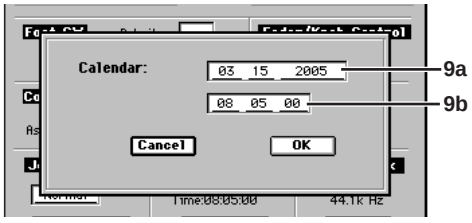
Select the speed at which the pointer will move when you operate the ClickPoint.

8. Calib

When you click this button, the **ClickPoint Calibration** dialog box will appear.
You should execute this operation if you notice that the movement of the pointer in the LCD screen or the clicking action does not match the position shown in the screen. Refer to "ClickPoint calibration" (→p.97) of the operation section.

9. Date/Time

Here you can specify the date and time for the D3200's internal clock. Songs are managed according to the date and time you specify here.



The **Calendar** dialog box will appear when you click this button. To apply the new date and time, click the **Yes** button. If you decide not to change the date and time, click the **No** button. (Alternatively, you can press the panel **YES** key or **NO** key.)

9a. Date

This displays (and lets you set) the current date, displayed as Month:Date:Year (four digits).

9b. Time

This displays (and lets you set) the current time, displayed in 24-hour time as Hours:Minutes:Seconds.

The date and time are retained when you power-off to the Standby mode. However, if the main power switch is turned off, you'll need to reset them.

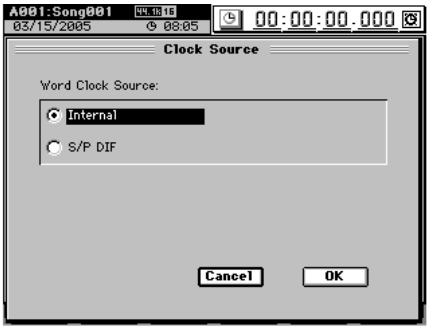
10. Word Clock

The **"Word Clock"** tab page displays the current word clock source and frequency, and lets you make synchronization settings for the audio data clock.

You may hear noise if synchronization cannot be achieved. Before you change these settings, please turn down the faders or turn down the volume of your monitor system.

When you click the **Clock Source** button, the **Clock Source** dialog box will appear. Choose the desired clock source and click the **OK** button (or press the panel **YES** key). The Working dialog box will appear. If you decide not to change the clock source setting, click the **Cancel** button (or press the panel **NO** key). The D3200 can synchronize to a 44.1 kHz or 48 kHz clock.

Internal: Synchronize to the internal clock.
S/P DIF: Synchronize to the S/P DIF clock.



When the clock has been calculated, the **Word Clock** indication will show the frequency of the clock source.

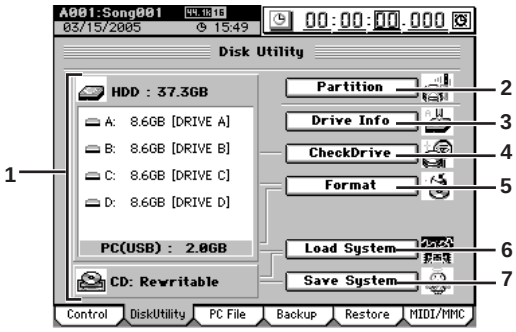
*If the digital input audio sounds wrong, or if **"Audio Sync Error"** is displayed, check the **"Clock Source"** setting or the connections from your other equipment.*

*If you select **"S/P DIF"** as **Clock Source**, the D3200 will stop operating if the clock is interrupted or the clock frequency changes during recording or playback. If the D3200 stops operating correctly due to a clock problem during recording, you will have to format the song drive. You may wish to back up the data on that song drive before using an external word clock.*

*The clock source setting is not saved. **"Clock Source"** will always be set to **"Internal"** when you select a song or when you turn on the power.*

9-2. Disk Utility

Here you can format a drive, create partitions, and check a drive.



1. Drive list **(HDD, CD)**

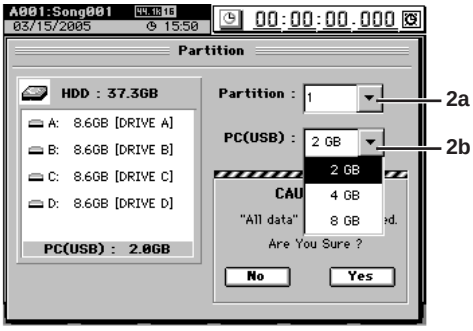
This displays information about the drive (capacity, drive name).

HDD: Hard Disk Drive
The upper area shows the total capacity of the hard disk.
The middle area shows the partition drive names (A–D), the capacities, and the song drive name.
The lower area shows the PC (USB) area. This drive is referred to as the PC drive, and can be set to 2, 4, or 8 GB.

DISK: Indicates the type of CD, CD-R, or CD-RW.

2. Partition

When you click this button, the **Partition** dialog box will appear.



2a. Partition **[1...4]**

This field specifies the number of partitions.
Click the **Partition** list box, select the number of partitions into which you want to divide the disk, and click the **Yes** button (or press the panel **YES** key) to execute the partition operation. At this time, a warning dialog box will appear if the drive contains even one song for which Protect is turned on. If you want to override the Protect setting of the song, click the **Force** button (highlighted) and then click the **Yes** button (or press the panel **YES** key) to continue execution.
If you decide not to execute, click the **No** button (or press the panel **NO** key).

*When you execute partitioning, the data on that drive will be lost, but **"User Data"** (→p.83, 123) and **SYSTEM/MIDI "Control"** tab page data will be maintained.*

2b. PC (USB) **[2 GB, 4 GB, 8 GB]**

Here you can change the size of the USB drive.
Click the **PC (USB)** list button to specify the size of the PC drive, and click the **Yes** button (or press the panel **YES** key) to execute the setting. At this time, a warning dialog box will appear if the drive contains even

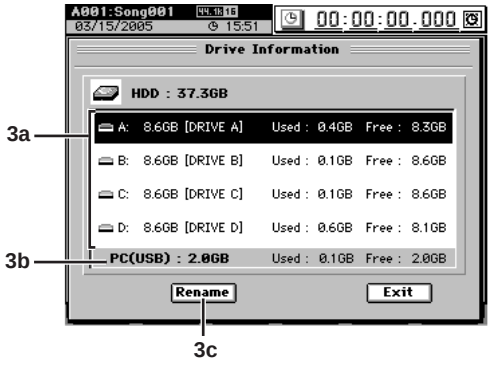
one song for which Protect is turned on. If you want to override the Protect setting of the song, click the **Force** button (highlighted) and then click the **Yes** button (or press the panel **YES** key) to continue execution.
If you decide not to execute, click the **No** button (or press the panel **NO** key).

If connected to a Windows 98 computer, only 2 GB can be detected for a PC (USB) drive. The drive will not be detected if it is 4 GB or 8 GB in size.

When you execute the Partition operation, the data on that drive will be lost.

3. Drive Info

Here you can view information about the hard disk.
When you click this button, the **Drive Info** dialog box will appear. Click the **Exit** button to return to the **"DiskUtility"** tab page.



3a. Song drive list

This displays the song drives.
The partition drive name (A–D), total capacity, song drive name, used capacity, and free capacity are displayed.

3b. PC drive

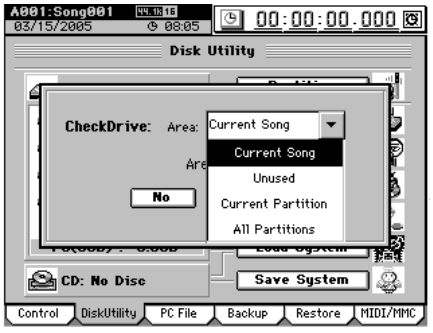
This displays the PC drive.
The total capacity, used capacity, and free capacity are displayed.

3c. Rename

In the song drive list, select the song drive that you want to rename, and click this button. Use the **Rename** dialog box to edit the name (→p.99).
Click the **Yes** button (or press the panel **YES** key) to execute the settings. If you decide not to execute, click the **No** button (or press the panel **NO** key).

4. CheckDrive

This checks and repairs errors in the songs on the hard disk. Execute this operation if the **"Disk too busy."** error message appears frequently. After executing this, you can continue using the song data unless there was a major error on the drive.



Click the **Area** button to display the list.

Current Song

Check and repair the area used by the currently selected song.

Unused

Check and repair the first 2 GB of the currently-unused area.

Current Partition

Check and repair the area of the currently selected partition.

All Partition

Check and repair all partitions and the area used by the system.

Specify the desired **Area**, and click the **Yes** button (or press the panel **YES** key) to execute the Check Drive operation. If you decide not execute, click the **No** button (or press the panel **NO** key).

note *Executing the **"Edit Track"** operation **"OptimizeTrk"** (→p.131) will also improve the state of tracks that produce **"Disk too busy."** errors. Use the Check Drive command if executing **OptimizeTrk** does not eliminate the **"Disk too busy."** errors.*

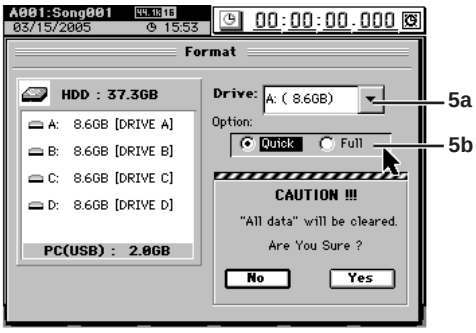
*Check Drive requires a substantial length of time for execution. If the hard disk has a capacity of 40 GB, executing this command for **All Partition** will require approximately 7 hours.*

5. Format

This formats the hard disk.
When you click the button, the **Format** dialog box will appear. Select the drive you wish to format and the desired option, and click the **Yes** button (or press the panel **YES** key) to execute formatting. If you decide not to format, click the **No** button (or press the panel **NO** key).

When you execute the Format operation, the data on that drive will be lost.

You cannot cancel this operation once formatting has begun.



5a. Drive

Select the drive that you want to format.

A…D: an individual song drive
A–D: all song drives
PC: the PC drive
ALL: the entire hard disk

5b. Option

Select the type of formatting.

Quick:

Since only the system area will be formatted, this will not require very much time.
ALL → approximately 7 seconds for 40 GB

Full:

Execute this if the **"Drive Error occurred."** message appears frequently during playback. Use this method if you still experience problems after performing a Quick format, such as the drive failing to be recognized. This will require a substantial length of time.
ALL → approximately 7 hours for 40 GB

6. Load System

This loads system files to update the operating software. When you click this button, the **LoadSystem** dialog box will appear. Use **"Source"** to select the system file that you want to load, and click the **Yes** button (or press the panel **YES** key) to begin the update.

For details, refer to "Upgrading the system" (→p.96).

7. Save System

The D3200's system program is stored on the hard disk. At start-up, this system program is loaded into the system area, and begins operating.

This means that if for some reason the hard disk should be damaged, it is possible that the system will become unable to start up.

As a safeguard against such emergencies, we recommend that you create a system recovery disc.

Click the button to open the **Save System** dialog box. Insert a CD-R or CD-RW into the CD-R/RW drive, and click the **Yes** button (or press the panel **YES** key) to create the system recovery disc. If you decide not to execute this operation, click the **No** button (or press the panel **NO** key).

You must use a blank disc to create a system recovery disc. You cannot create a system recovery disc using a disc that already contains data.

9-3. Edit PC File

Here you can view, delete, and rename the folders and files in the PC drive.

By connecting the D3200's USB connector to your personal computer, you can save data from the PC drive onto your computer.

You can save the following data on the PC drive.

Song data

This is data for each track, mixer settings, and effect settings.

Since this data is in a proprietary Korg format, it cannot be played back or edited as audio data on any device other than the D3200, such as a computer. In order to play this data, you must Restore it into the D3200.

User data

The editable data consists of the user effect program data, user EQ library data, and mixer setup data.

Since this data is in a proprietary Korg format, it cannot be edited on a computer or other device.

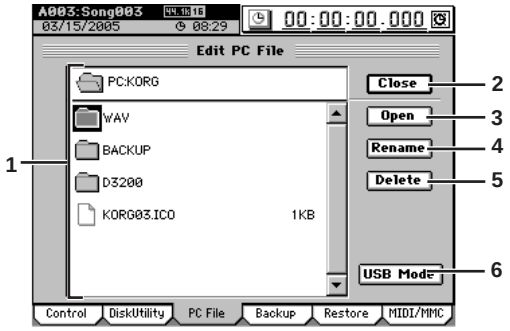
In order to use this data, you must Restore it into the D3200.

Audio files

Audio files are 44.1/48 kHz, 16-bit/24-bit WAV format data. For details on creating audio files, refer to "2-2. Exporting an audio file" (→p.87).

For details regarding limitations on files, refer to "More about drives and files" (→p.172).

*Do not delete files named **"AUTORUN.INF"** or **"KORG03.ICO,"** since these contain settings.*



1. File list

This area lists the files.

Upper area: PC folder names (:folder names…)

Lower area: folders/file names

2. Close

Moves to the next higher folder level.

3. Open

If a folder is selected, opens that folder.

4. Rename

Renames a file (→p.99).

For details regarding limitations on file names, refer to "More about drives and files" (→p.171).

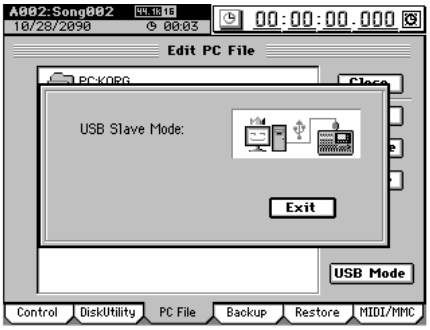
5. Delete

Deletes the selected file.

6. USB Mode

Places the D3200 in USB Slave mode. When the D3200 is in this mode, data can be transferred between the D3200's internal PC drive and your personal computer.

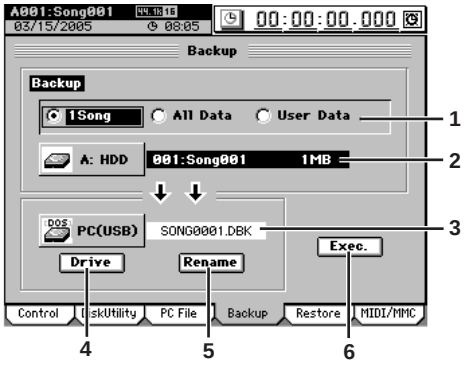
To exit from this mode, perform the "Safely Remove Hardware" (→p.93) operation on your computer, and then click the **Exit** button in the **USB Slave Mode** dialog box.



9-4. Backup

This operation saves back-up data to CD-R, CD-RW, or the PC drive.

For details regarding limitations on files, refer to "More about drives and files" (→p.171).



1. Backup **[1Song, All Data, User Data]**
Select the type of data that you want to back up.

1Song
From the selected drive, back up the data for one song, and the user data.

All Data
Back up all song data on the selected drive, the user data, and the Album CD Project.

User Data
Backup only the user data (user effect programs, user EQ library, mixer setup)

note *Song Effect Programs are backed up as song data (1Song, All Data); they are not included in User Data.*

2. Backup source
This displays the drive etc. for the song you selected in the **SONG** page (→p.117).
Depending on the contents of the backup, the backup-source drive, song number, song name, user effect data, and the size of the backup data will be displayed.

3. Backup destination
This displays the backup-destination drive and the name of the file in which the data will be saved.

4. Drive **[Disk, PC (USB)]**
This selects the backup-destination drive. The **Select Drive** dialog box will appear when you click this button. Click the radio buttons to select a drive, and click the **Yes** button (or press the panel **YES** key).

5. Rename
This lets you rename the backup file. Click this button to display the **Rename** dialog box. Edit the file name and click the **OK** button (or press the panel **YES** key).
For details on the allowable file names, refer to "More about drives and files" (→p.171).

6. Exec.
This executes the backup.
Click this button and the **Backup** dialog box will appear, showing the space required for the backup.

- If you are backing up to the PC drive, check the free space and click the **Yes** button (or press the panel **YES** key).
- If you are backing up to CD, prepare the necessary number of disc media to accommodate the backup, specify the writing speed, and click the **Yes** button (or press the panel **YES** key).

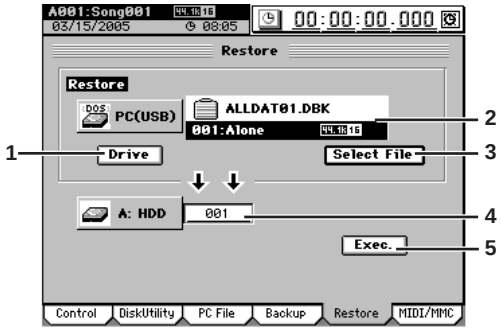
9-5. Restore

This operation restores song and user data that you previously saved using the Backup operation.
From a **"1Song"** backup file you can restore that one song and user data.

From an **"All Data"** backup file, you can restore either one selected song, or all song data, User Data and album CD project data.

From a **"User Data"** backup file, you can restore user effect program, user EQ library, and mixer setup data.

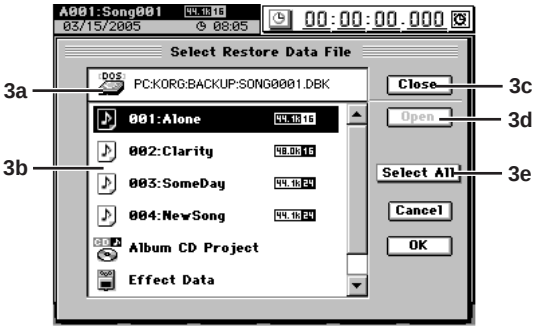
For details regarding limitations on files, refer to "More about drives and files" (→p.171).



1. Drive **[CD, PC (USB)]**
This selects the backup-source drive. Click this button to display the **Select Drive** dialog box. Use the radio buttons to select a drive, and click the **Yes** button (or press the panel **YES** key).

2. Restore file
This displays the file that will be restored.
If you are restoring from the disk drive, insert the disc containing the backup into the drive.

3. Select File
Click this button to display the **Select Restore Data File** dialog box, and select the data that you want to restore. Select the data that you want to restore, and then click the **OK** button (or press the panel **YES** key).



3a. Restore-source display
This area displays the restore-source drive and folder name.

3b. File list
This area lists the folders, files, and data contained in the restore-source.

3c. Close
Moves to the next higher folder.

3d. Open
If the selected item is a folder, opens that folder.

3e. Select All
Press this if you want to restore all the data displayed in the file list.

4. **Restore destination**
   This displays the restore-destination drive, and lets you select the song number.
   If you are restoring **"1Song,"** the data will be restored to the song number you select here.
   The restore-destination drive will indicate the drive of the song selected in the **SONG** page.
5. **Exec.**
   Press this to execute the restore operation. The restore-source song and / or user data will be restored to the restore-destination drive.

   Song data
   When you restore one or more songs, the restored song(s) will be inserted at the specified song number of the current drive. Songs following the restore-destination number will be renumbered higher by one. They will not be overwritten.

   Album CD Project
   When you restore Album CD Project data, the album CD project data of the current drive will be overwritten.

   Other data files
   When you restore other types of data, the corresponding data files will be overwritten.

   Restoring all data files in the file list at once
   When you restore, the song data will be loaded following the songs of the current drive, and other data files (such as user data and album CD project data) will be overwritten.

   The restore-destination capacity will be checked before restoring 1Song or All Songs. If there is insufficient capacity, the operation will not be executed.

9-6. MIDI / MMC

On the D3200 you can use MIDI to do the following things.

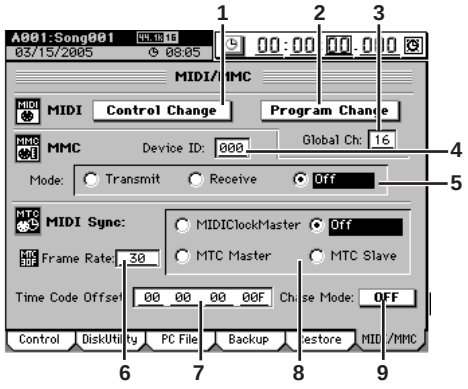
- Control effects (→p.57)
- MTC Synchronizing with a sequencer or other MIDI device (→p.95)
- Switch scenes (→p.51)
- Use control changes to control mixer parameters

The D3200 can transmit and receive MMC (**M**IDI **M**achine **C**ontrol) messages.
This means that when synchronizing two D3200 units, or when using the D3200 with a MMC-compatible MIDI sequencer, you can control operations such as song playback, and stop from the master device.

You can use MIDI Time Code to synchronize the D3200 with an external MIDI sequencer or other device, so that the D3200's track audio will play back in synchronization with external MIDI source sources.
The D3200 can operate in synchronization with an external MIDI device by using MTC (MIDI Time Code) synchronization.
The device that outputs the synchronization clock is called the master, and the device that receives this clock is called the slave. The D3200 can function either as the master or slave.

Some MIDI devices may not support the MMC functionality of the D3200. For details on the MMC functionality of the D3200, refer to the MIDI implementation.

*MIDI Clock can be received if you select MIDI Clock in the **SESSION DRUMS "Tempo Trk"** tab page and record the tempo track.*



1. **Control Change**
   Here you can turn control change message reception / transmission on (highlighted) or off.
   When you operate mixer parameters, the D3200 will transmit corresponding messages. These messages can be recorded on an external MIDI sequencer, and the re-transmitted back to the D3200 to control the corresponding mixer parameters.
   For details on the parameters you can control, refer to the MIDI implementation.

   note *MIDI control of effects can be used regardless of the **Control Change** on/off setting.*

   *These messages will be received only if **Automation** (→p.103) is turned off.*
2. **Program Change**
   Here you can turn program change message reception / transmission on (highlighted) or off.
   When you switch scenes, the D3200 will transmit a corresponding program change message. These program change messages can be recorded on an external MIDI sequencer, and re-transmitted back to the D3200 to select the corresponding scene.

*These messages will be received only if **Automation** (→p.103) is turned off.*

3. Global Ch **[01…16]**

This sets the Global MIDI Channel.
If you want to use program change messages to transmit and receive scene changes, use a MIDI cable to connect your external MIDI device to the D3200, and set the MIDI channel of your connected device to the same MIDI channel as the D3200's **"Global Ch"** so that MIDI messages can be transmitted and received.

4. MMC Device ID **[000…127]**

Specifies the device ID that will be used to transmit and receive MMC.
In order to transmit or receive MMC, you must use a MIDI cable to connect the D3200 and the external MIDI device, set the two devices to the same Device ID, and make the appropriate setting in **"MMC Mode."**

note *If this is set to 127, the D3200 can transmit and receive MMC commands to and from units of any device ID setting.*

5. Mode **[Transmit, Receive, Off]**

This sets the MMC transmission / reception mode.

Transmit: MMC will be transmitted. In this case, the MIDI Sync setting will automatically be set to MTC Slave.

Receive: MMC will be received. In this case, the MIDI Sync setting will automatically be set to MTC Master.

Off: MMC will not be used.

6. Frame Rate

This selects the frame rate that is used when **MIDI Sync** is set to **"MTC Master"** or **"MTC Slave."**
Set this to the same frame rate as used on the external device with which you are synchronizing.
30: 30 fps (30 frames per second, non-drop)
29NDF: 29.97 fps (29 frames per second, non-drop)
29DF: 29.97 fps (29 frames per second, drop)
25: 25 fps (25 frames per second, non-drop)
24: 24 fps (24 frames per second, non-drop)

7. Time Code Offset

[00:00:00.00F…23:59:59.29F] (for frame rate 30)
This specifies an offset value that will be reflected in the counter.
The offset value you specify here will be the starting value for the counter. This will apply when the counter is set to display frames and MTC / MMC is enabled.

8. MIDI Sync

[MIDIClockMaster, Off, MTC Master, MTC Slave]

This selects the synchronization mode used when synchronizing via the MIDI IN / OUT connectors.

MIDIClockMaster: MIDI clock data will be transmitted.

Off: Synchronization messages will not be transmitted or received.

MTC Master: The D3200 will operate as the master device. At this time if the MMC Mode is set to **Transmit**, the Chase Mode setting will automatically be turned **Off**.

MTC Slave: The D3200 will operate as the slave device. At this time if the MMC Mode is set to **Receive**, the Chase Mode setting will automatically be turned **ON**.

9. Chase Mode **[ON, OFF]**

This is available if **"MIDI Sync"** is set to **"MTC Slave."**

ON: When MTC synchronization begins, playback will chase the MTC messages. After playback begins, if two seconds or more elapse without a MTC message being received, and there is a discrepancy of two seconds or more between the MTC messages and the current location of the D3200, playback will stop and wait for MTC synchronization to resume.

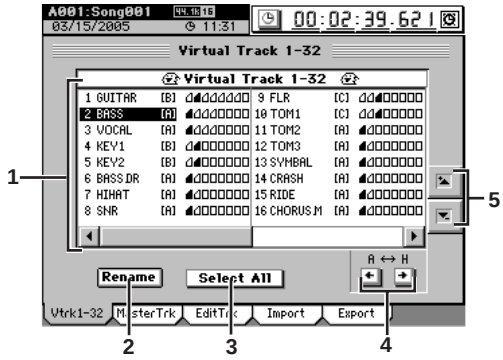
OFF: MTC messages will be chased during playback only when MTC synchronization begins. Once playback begins, it will continue even if the received time code no longer matches the internal time code or if time code stops arriving.

If you are synchronizing with a device other than the D3200 as the MTC master, incompatibilities between the devices may cause synchronization problems unless you play back from the beginning of the song.

10. TRACK

10-1. Virtual Track 1–32

Here you can select a virtual track for each channel track.



1. Virtual track selection

Select a track **"1"–"32,"** and specify a virtual track for each track.

Each track has eight virtual tracks; **"A"–"H."** Recording or playback operations will be performed using the virtual track you select here.

Audio events	Virtual track	
	Active	Ready
Audio exists	■	□
No audio exists	■	□

2. Rename

This button lets you edit a track name.

Select the track that you want to rename, click this button to display the **Rename** dialog box, and edit the name.

You can input a name of up to sixteen characters. (→p.99)

3. Select All **[On, Off]**

If you want to select the same virtual track number for every track (tracks 1–32), turn this button on (highlighted) and then select the desired virtual track.

The same virtual track number will be selected for all tracks.

4. V-Level **[A…H]**

Here you can select one of the eight virtual tracks **"A"–"H."**

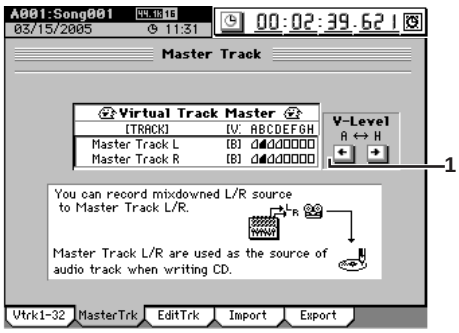
For virtual tracks that contain data, one corner of the icon will be folded down.

5. ▼ / ▲ buttons

Use these up / down buttons to select a track.

10-2. Master Track

Here you can select a virtual track for the master track. This track will be used as the mixdown-destination track. This is also the track that will be used when creating an audio CD.



1. V-Level **[A…H]**

Here you can select one of the eight virtual tracks **"A"–"H."**

For virtual tracks that contain data, one corner of the icon will be folded down.

Recording or playback operations will be performed using the virtual track you select here.

10-3. Edit Track

Here you can edit tracks.

Editing operations will apply to the currently selected tracks 1–16.

The other virtual tracks (i.e., the virtual tracks that are not selected) will not be affected by your editing. (However, "CopyWholeTrk" and "SwapWholeTrk" are exceptions to this.)

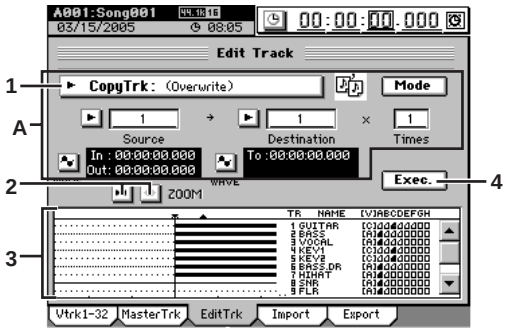
Some of these editing operations will consume additional space on the drive, but there are ways in which you can increase the available free space (→p.131).

The locations stored in the **LOC 1/IN** through **LOC 4/END** keys determine the region(s) that will be edited (→p.38).

LOC 1/IN key: IN location
LOC 2/OUT key: OUT location
LOC 3/TO key: TO location
LOC 4/END key: END location

note *After executing one of these editing operations, you can use the Undo operation to cancel the results.*

You cannot make settings that would cause the IN–OUT region or the TO–END region to be longer than 12 hours.



1. Edit type **[CopyTrk…EraseSilence]**

When you click this button, the **Edit Trk Type** dialog box will appear. Select the desired editing operation and click the **OK** button (or press the panel **YES** key) to return to the **"EditTrk"** tab page.

The screen display of area "A" will change depending on the edit type you select here.

2. **ZOOM buttons**
   Use these buttons to expand or shrink the area displayed in the track view window.

3. **Track view window**
   Audio events in the track are displayed as bold lines.
   The vertical line is the current location.
   Locate points (→p.37) are shown in the upper part of this area.

   IN:▼ OUT:▲ TO:▽ END:△

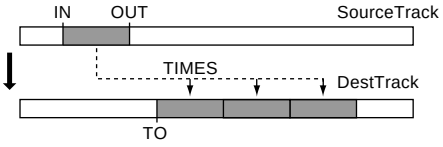
   At the right are displayed the name of each track and the virtual track usage status.

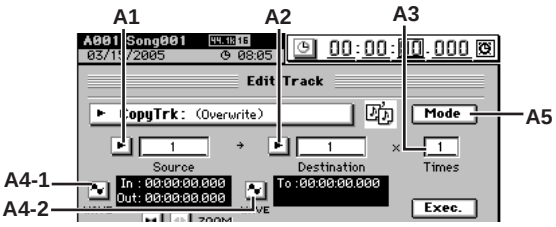
4. **Exec.**
   When you click this button, a dialog box will appear, allowing you to confirm the editing operation you have specified. Click the **Yes** button (or press the panel **YES** key) to execute, or click the **No** button (or press the panel **NO** key) to cancel.

○ **Separate explanations are given below for each editing operation you select in 1. Edit Type.**

CopyTrk

This operation copies the audio data in the IN–OUT range of the copy source track (**Source**) to the TO location of the copy destination track (**Destination**), repeating the specified number of times.
You can use the clipboard to copy data to a track of a different song.





A1. Source **[1...32, ML, MR, 1-2...31-32, MST, 1-4...29-32, 1-8...24-32, 1-16, 17-32, 1-32, ALL, Clip#*1]**

Select the copy source track.
ML and **MR** are master track L and R, **MST** is the master track, and **ALL** is tracks 1–16 and the master track.

*1: You can select **"Clip#"** only if the clipboard contains data. # indicates the number of tracks in the clipboard. You can use **"Clip#"** to copy from a track of a different song.

For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

A2. Destination **[1...32, ML, MR, 1-2...31-32, MST, 1-4...29-32, 1-8...24-32, 1-16, 17-32, 1-32, ALL, Clip]**

Select the copy destination track.

For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

Using Clip

You can use the clipboard to copy data to a track of a different song.
If you copy between songs that have a different sampling frequency and / or bit depth, the **CopyTrk** dialog box will appear, and the sampling frequency and / or bit depth will be converted. If the song has a different sampling frequency, conversion will be performed; this will take a certain amount of time.

2a. Dither
If you click this button on, dithering will be performed on the data when the operation is executed. This will minimize the quantization noise that may occur when 24-bit data is converted to 16-bit data.

A3. Times **[1…99]**
Specifies the number of times that the data will be copied.

A4-1. WAVE

A4-2. WAVE

You can click these buttons to view the waveform of the track audio.

This allows you to set the editing locations (IN, OUT, TO, END) more accurately.

Click the A4-1 button if you want to edit IN and OUT, or click the A4-2 button if you want to edit TO and END.

note *You will find it convenient to set IN (LOC 1), OUT (LOC 2), TO (LOC 3), and END (LOC 4) to their approximate locations before you use this function.*

A5. Mode

When you click this button, the **Copy Mode** dialog box will appear. Select the desired mode and click the **OK** button (or press the panel **YES** key).

OverWrite:

Track data previously at the copy-destination will be overwritten.

Insert:

The copied data will be inserted, and subsequent track data will be shifted toward the end of the song.

Wave dialog box

To open this dialog box, click the **Source WAVE** button if you are setting the **"Source"** region, or click the **Destination WAVE** button if you are setting the **"Destination"** region.

5a. Track selection

Click the popup button, click a radio button in the **Select Track** dialog box to select the track whose location you want to specify, and click the **OK** button (or press the panel **YES** key).

If you click (highlight) the **Stereo** button, the waveforms of two adjacent channels will be displayed in the upper and lower parts of the waveform window.

5b. Preview playback buttons

You can also use the top panel transport keys listed here in square brackets [ ] to operate these controls.

- [REW] plays approximately two seconds ending at the location ("Play To")
- [FF] plays approximately two seconds from the location ("Play From")
- [STOP] stops playback
- [PLAY] plays the location (from In to Out)
- [REC] plays as a loop

5c. Search Zero

You can click this button and turn the value dial to move to the next or previous zero-cross point.

note *A "zero cross" point is a point where the waveform level crosses the ±0 amplitude (the center line in the waveform window).*

5d. Waveform window

This displays the waveform of the selected track.

note *You can move the location by clicking in the waveform window and then moving the ClickPoint to left or right while holding down the panel JUMP key. You can also move the location by clicking and holding in the waveform window and then moving the ClickPoint to left or right.*

5e. Locate

Click the radio buttons to select the location (IN, OUT, TO, END) you want to edit, and turn the value dial to set the location while you listen to the track audio (soloed). The current location is shown by the vertical bar in the waveform window.

5f. ZOOM

Use these buttons to adjust the size of the waveform display and the playback speed.

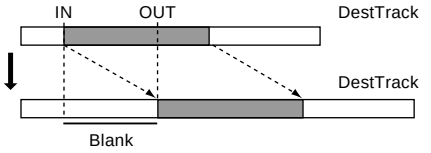
- vertically expands the waveform display.
- vertically shrinks the waveform display.
- horizontally expands the waveform display.
- horizontally shrinks the waveform display.

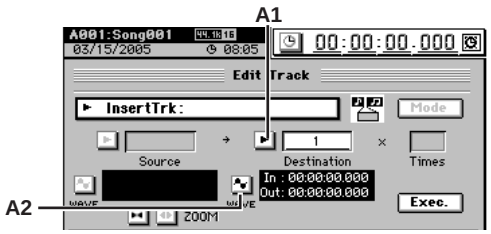
When you click the **OK** button (or press the panel **YES** key), the locations you specified will be overwritten to the corresponding key (**LOC 1/IN**, **LOC 2/OUT**, **LOC 3/TO**, **LOC 4/END**). If you click the **Cancel** button (or press the panel **NO** key), your changes will be discarded.

note *You can control the **ZOOM** buttons by holding down the panel **JUMP** key and pressing the cursor keys.*

InsertTrk

This operation inserts a blank in the IN–OUT range of the insert destination track (**Destination**).
When this is executed (**Exec.**), any track data that followed the inserted blank will be shifted toward the end of the song.





A1. Destination

[1...32, ML, MR, 1-2...31-32, MST, 1-4...29-32, 1-8...24-32, 1-16, 17-32, 1-32, ALL]

Select the insert destination track.

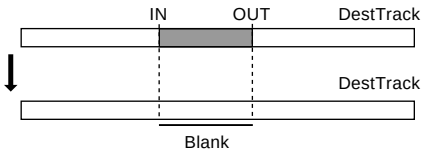
For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

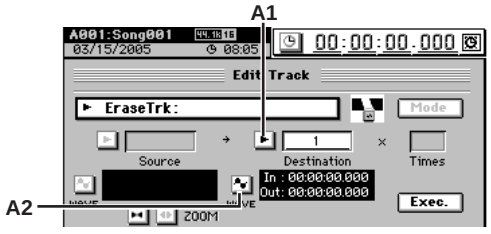
A2. WAVE

This area displays the audio data of the track as a waveform. Here you can set the editing locations (IN, OUT) more precisely. (→p.128 Edit Type: "CopyTrk," Wave dialog box)

EraseTrk

This operation erases the track data in the IN–OUT range of the erase destination track (**Destination**).
When this is executed (**Exec.**), the IN–OUT range will contain silence.





A1. Destination

[1...32, ML, MR, 1-2...31-32, MST, 1-4...29-32, 1-8...24-32, 1-16, 17-32, 1-32, ALL]

Select the erase destination track.

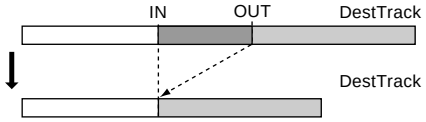
For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

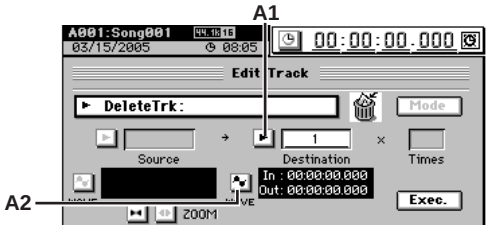
A2. WAVE

This displays the audio data of the track as a waveform. Here you can set the editing locations (IN, OUT) more precisely. (→p.128 Edit Type: "CopyTrk," Wave dialog box)

DeleteTrk

This operation deletes the track data from the IN–OUT range of the delete destination track (**Destination**).
When this is executed (**Exec.**), the data of the IN–OUT range will be discarded, and any track data that followed the deleted range will be shifted toward the beginning of the song.





A1. Destination

[1...32, ML, MR, 1-2...31-32, MST, 1-4...29-32, 1-8...24-32, 1-16, 17-32, 1-32, ALL]

Select the track(s) from which data will be deleted.

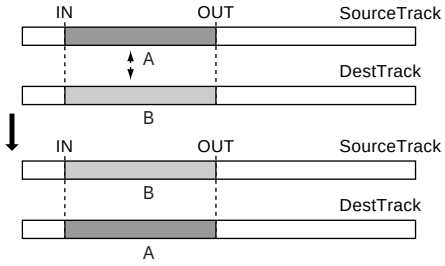
For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

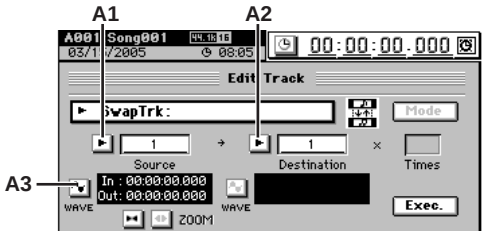
A2. WAVE

This displays the audio data of the track as a waveform. Here you can set the editing locations (IN, OUT) more precisely. (→p.128 Edit Type: "CopyTrk," Wave dialog box)

SwapTrk

This operation exchanges (swaps) the track data of the IN–OUT range of the swap source track (**Source**) with the track data in the IN–OUT range of the swap destination track (**Destination**).
When this is executed (**Exec.**), the data in the IN–OUT ranges of the **"Source"** and **"Destination"** will be exchanged.





A1. Source

[1...32, ML, MR, 1-2...31-32, MST, 1-4...29-32, 1-8...24-32, 1-16, 17-32, 1-32, ALL]

Select the swap source track.

For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

A2. Destination

[1...32, ML, MR, 1-2...31-32, MST, 1-4...29-32, 1-8...24-32, 1-16, 17-32, 1-32, ALL]

Select the swap destination track.

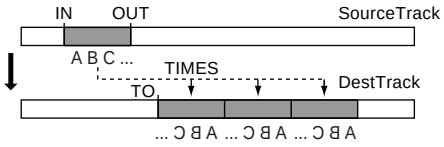
For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

A3.WAVE

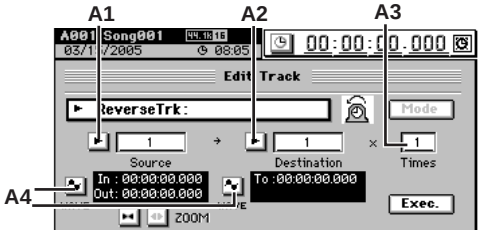
This displays the waveform of the track audio, allowing you to set the editing locations (IN, OUT) more accurately. (→p.128 Edit Type: "CopyTrk," Wave dialog box)

ReverseTrk

This operation copies the track data of the IN–OUT range of the reverse source track (**Source**) to the TO location of the destination track (**Destination**) in reverse (flipped back-to-front). You can specify the number of times that the data will be copied.
When this is executed (**Exec.**), the copied data will be reversed, so that the playback will be backward.



The specified range of the reverse destination track will be overwritten.



A1. Source

[1...32, ML, MR, 1-2...31-32, MST, 1-4...29-32, 1-8...24-32, 1-16, 17-32, 1-32, ALL]

Select the reverse source track.

For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

A2. Destination

[1...32, ML, MR, 1-2...31-32, MST, 1-4...29-32, 1-8...24-32, 1-16, 17-32, 1-32, ALL]

Select the reverse copy destination track.

For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

A3. Times **[1…99]**

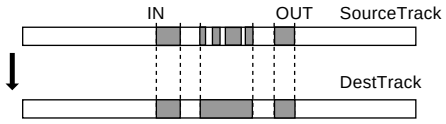
Specify the number of times that the data will be copied.

A4.WAVE

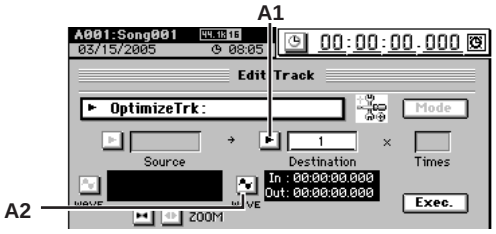
This displays the audio data of the track as a waveform. Here you can set the editing locations (IN, OUT, TO, END) more precisely. (→p.128 Edit Type: "CopyTrk," Wave dialog box)

OptimizeTrk

This operation re-creates the audio events in the IN–OUT region to prevent **"Disk too busy."** errors from occurring. If there are no gaps between one audio event and the next, or if the gap is small, the data will be combined into a single event. If there are extended gaps between audio events, the data will be re-created in a way that avoids wasting space.



note *By setting the IN–OUT region to the beginning and end of the song, and executing the Optimize Track operation, you can re-create the data in a form that will be ideal for hard disk access.*



A1. Destination
[1...32, ML, MR, 1-2...31-32, MST, 1-4...29-32, 1-8...24-32, 1-16, 17-32, 1-32, ALL]
Selects the track that will be optimized.

For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

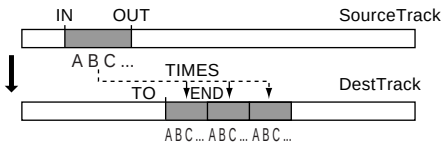
A2. WAVE
This displays the audio data of the track as a waveform. Here you can set the editing locations (IN, OUT) more precisely. (→p.128 Edit Type: "CopyTrk," Wave dialog box)

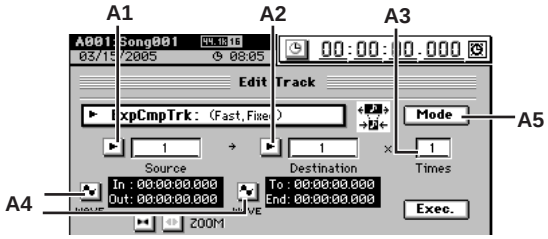
ExpCmpTrk

This operation expands or compresses the track data of the IN–OUT range of the expansion / compression source track (**Source**), places it in the TO–END range of the expansion / compression destination track (**Destination**), and copies it the specified number of times beginning at the TO location.

*When this is executed (**Exec.**), the expansion/compression destination track will be overwritten.*

The available ratio of expansion/compression is limited, and if the IN–OUT duration is drastically different than the TO–END duration, an error message will appear when this is executed. In general, the TO–END time can be changed to 50–200% of the IN–OUT time.





A1. Source **[1...32, ML, MR, 1-2...31-32, MST]**
Select the expansion / compression source track.

For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

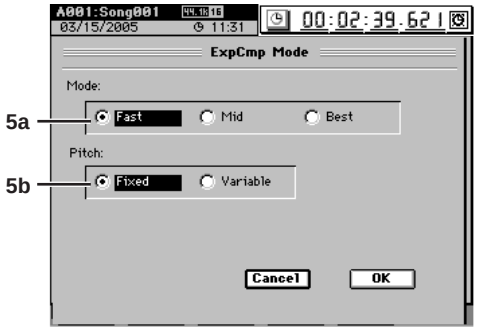
A2. Destination **[1...32, ML, MR, 1-2...31-32, MST]**
Select the expansion / compression copy destination track.

For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

A3. Times **[1…99]**
Specify the number of times that the data will be copied.

A4. WAVE
This displays the audio data of the track as a waveform. Here you can set the editing locations (IN, OUT, TO, END) more precisely. (→p.128 Edit Type: "CopyTrk," Wave dialog box)

A5. Mode
Select how the expansion / compression will be processed.
When you click this button, the **ExpComp Mode** dialog box will appear.



5a. Mode **[Fast, Mid, Best]**
Specify the conversion mode for expansion / compression.

Fast: Processing speed will be given priority
Mid: Mid-way between **"Fast"** and **"Best"**
Best: Audio quality will be given priority

However if **"5b. Pitch"** is set to "**Variable**," this setting will have no effect.

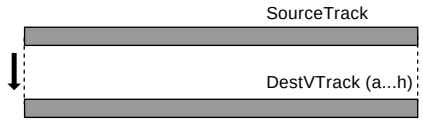
5b. Pitch **[Fixed, Variable]**
Select the pitch at which the data will play back after expansion / compression has been performed.

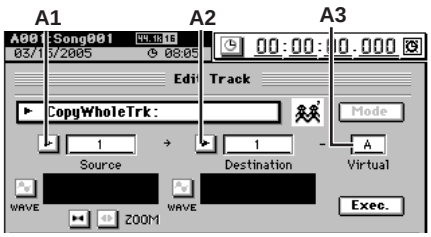
Fixed: The pitch will remain the same
Variable: The pitch will be change

When you click the **OK** button (or press the panel **YES** key), expansion / compression will be executed with the conversion mode that you selected. Click the **Cancel** button (or press the panel **NO** key) to cancel without executing.

CopyWholeTrk

This operation copies the track data from the beginning to the end of the copy source track (**Source**; the currently selected virtual track) to the specified virtual track of the copy destination track (**Destination**).
When this is executed (**Exec.**), the copy destination track will be overwritten.





A1. Source
[1...32, ML, MR, 1-2...31-32, MST, 1-4...29-32, 1-8...24-32, 1-16, 17-32, 1-32, ALL]
Select the copy source track.

For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

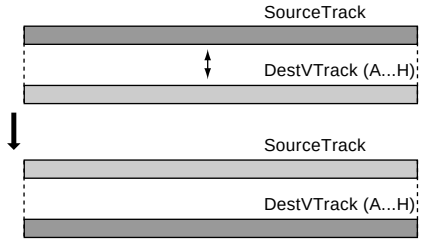
A2. Destination
[1...32, ML, MR, 1-2...31-32, MST, 1-4...29-32, 1-8...24-32, 1-16, 17-32, 1-32, ALL]
Select the copy destination track.

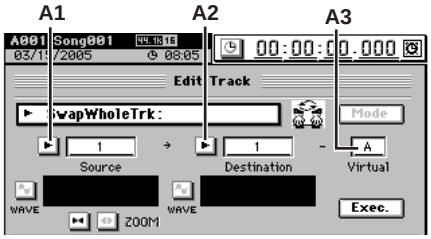
For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

A3. Virtual **[A…H]**
Select the virtual track of the copy destination track (**Destination**) to which the data will be copied.

SwapWholeTrk

This operation exchanges (swaps) the track data from the beginning to the end of the swap source track (**Source**; the currently selected virtual track) with the specified virtual track of the swap destination track (**Destination**).
Use this operation when you wish to reorder the recorded tracks. When you have finished recording a song, this operation also provides a useful way to move the final data so that virtual track “a” is used for all tracks.
When this is executed (**Exec.**), all data of the **“Source”** and **“Destination”** will be exchanged.





A1. Source
[1...32, ML, MR, 1-2...31-32, MST, 1-4...29-32, 1-8...24-32, 1-16, 17-32, 1-32, ALL]
Select the swap source track.

For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

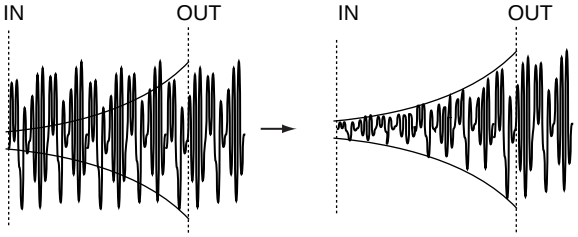
A2. Destination
[1...32, ML, MR, 1-2...31-32, MST, 1-4...29-32, 1-8...24-32, 1-16, 17-32, 1-32, ALL]
Select the swap destination track.

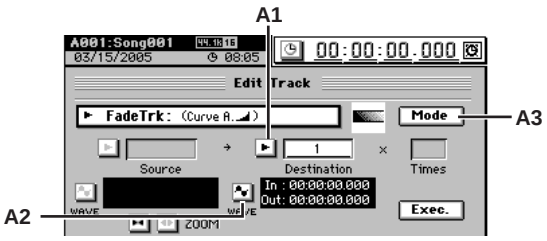
For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

A3. Virtuals **[A…H]**
Select the virtual track of the swap destination track (**Destination**) to which the data will be swapped.

FadeTrk

This operation fades-in or fades-out the track data in the IN–OUT range of the fade-in destination track (**Destination**). When this operation is executed, the audio data in the IN–OUT range will be smoothly faded to the level of the OUT time location.
When this is executed (**Exec.)**, the fade-in (fade-out) destination track will be overwritten.



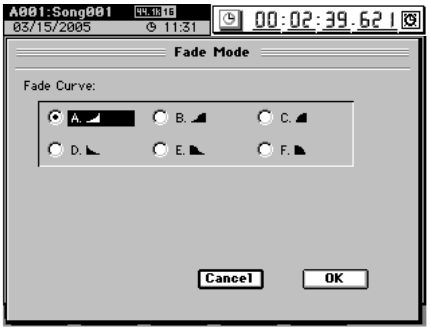


A1. Destination
[1...32, ML, MR, 1-2...31-32, MST, 1-4...29-32, 1-8...24-32, 1-16, 17-32, 1-32, ALL]
Select the track to be edited.

For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

A2. WAVE
This displays the audio data of the track as a waveform. Here you can set the editing locations (IN, OUT) more precisely. (→p.128 Edit Type: "CopyTrk," Wave dialog box)

A3. Mode
Click this button to display the **Fade Mode** dialog box. Use **"Fade Curve"** to select the desired fade-in or fade-out curve.



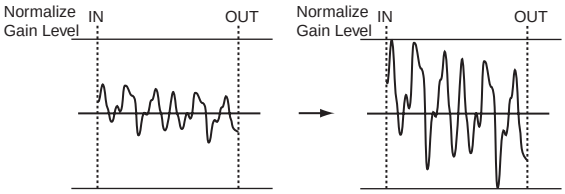
SelectFadeMode **[A…F]**

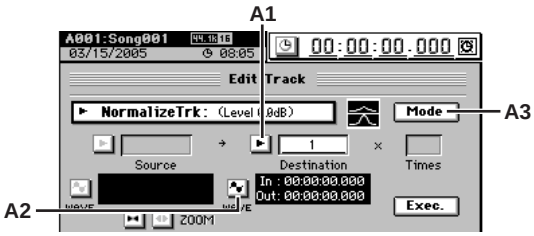
- **A.** : This curve is ideal for conventional fade-in.
- **B.** : This curve is ideal for creating cross-fades where two tracks are faded-in / out at the identical time location.
- **C.** : This curve inverts the A curve, lengthening the sound that is heard.
- **D.** : Fade-out using the A type curve.
- **E.** : Fade-out using the B type curve.
- **F.** : Fade-out using the C type curve.

Click the **OK** button (or press the panel **YES** key) to finalize the selected fade type, or click the **Cancel** button (or press the panel **NO** key) to cancel the setting.

NormalizeTrk

If the recorded level is low, you can use this operation to boost the specified region (IN–OUT) of the track data to the specified volume. The normalize-destination track will be overwritten.





A1. Destination **[1...32, ML, MR, 1-2...31-32, MST]**
Select the normalize-destination track.

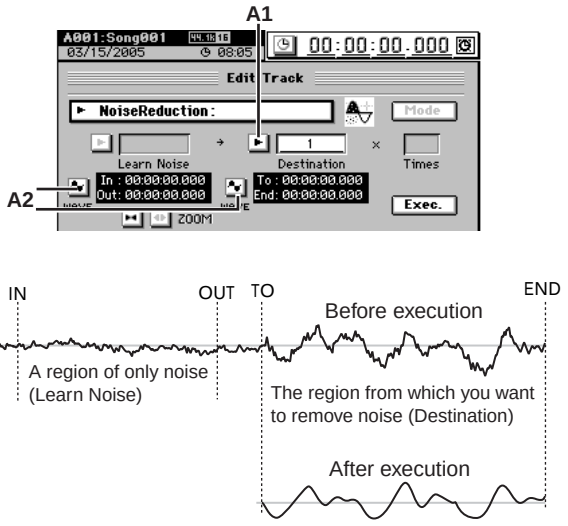
For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

A2. WAVE
This displays the waveform of the track audio, allowing you to set the editing locations (IN, OUT) more accurately. (→p.128 Edit Type: "CopyTrk," Wave dialog box)

A3. Mode **[0 dB…–63.5 dB]**
Click this button to display the **Normalize Mode** dialog box, and set **"Normalize Gain Level"** to specify the level. Click the **OK** button (or press the panel **YES** key) to set the selected normalize level, or click the **Cancel** button (or press the panel **NO** key) to discard your settings.

NoiseReduction

On the desired track, specify a region (IN–OUT) containing only noise which the D3200 will use to analyze and "learn" the noise component. This noise component will then be eliminated from the data in the other region you specify (TO–END) of the same track.



A1. Destination

[1...32, ML, MR, 1-2...31-32, MST, 1-4...29-32, 1-8...24-32, 1-16, 17-32, 1-32, ALL]

Select the track on which noise reduction will be performed.

For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

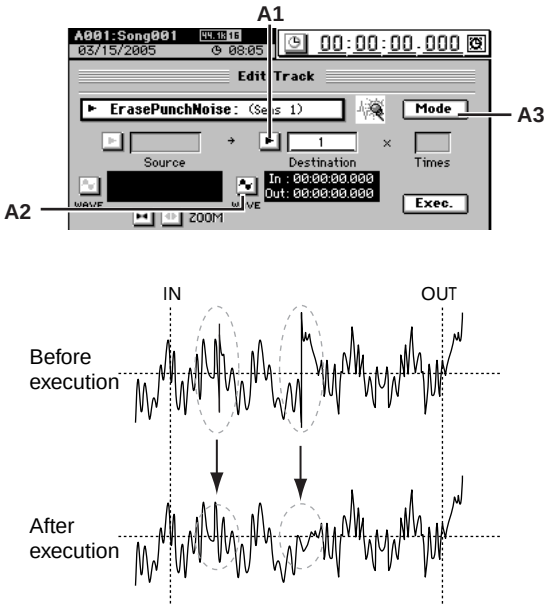
A2. WAVE

This displays the waveform of the track audio, allowing you to set the editing locations (IN, OUT, TO, END) more accurately. (→p.128 Edit Type: "CopyTrk," Wave dialog box)

ErasePunchNoise

This minimizes "pop" noises. Set the IN and OUT locations before and after the area where the noise occurs. You can also erase multiple occurrences of noise.

The **"ErasePunchNoise Sens"** value specifies the sensitivity at which noise will be detected. Normally, you should start by executing this command with a setting of **"1"**. Increase the setting if noise still remains.



A1. Destination

[1...32, ML, MR, 1-2...31-32, MST, 1-4...29-32, 1-8...24-32, 1-16, 17-32, 1-32, ALL]

Select the track from which punch noise will be erased.

For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

A2. WAVE

This displays the waveform of the track audio, allowing you to set the editing locations (IN, OUT) more accurately. (→p.128 Edit Type: "CopyTrk," Wave dialog box)

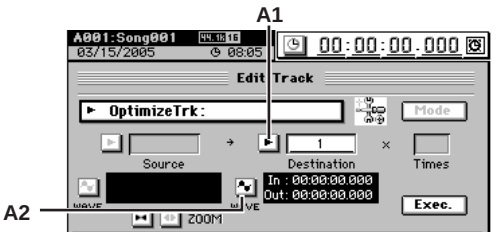
A3. Mode **[0 dB...–63.5 dB]**

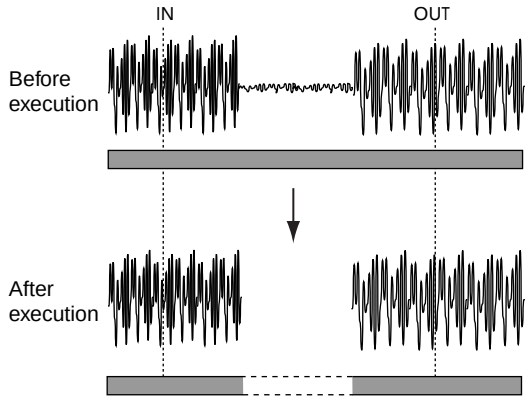
Click the button to open the **ErasePunchNoise Mode** dialog box, and use **"ErasePunchNoise Sens"** to specify the sensitivity at which noise will be detected.

Click the **OK** button (or press the panel **YES** key) to specify the sensitivity, or click the **Cancel** button (or press the panel **NO** key) to cancel the setting.

EraseSilence

In an extended recording that contains significant amounts of silence, this operation erases the silent regions, and divides the areas containing sound into separate events.





note *Levels lower than –36 dB will be considered as silence.*

A1. Destination

[1...32, ML, MR, 1-2...31-32, MST, 1-4...29-32, 1-8...24-32, 1-16, 17-32, 1-32, ALL]

Select the track in which silent regions will be erased.

For a 48 kHz/24-bit or 44.1 kHz/24-bit song, you can select only tracks 1–16.

A2. WAVE

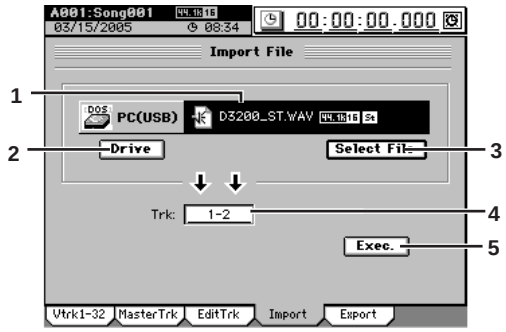
This displays the waveform of the track audio, allowing you to set the editing locations (IN, OUT) more accurately. (→p.128 Edit Type: "CopyTrk," Wave dialog box)

10-4. Import File

An audio file from the D3200's PC drive or CD drive can be pasted into the beginning (location 0) of a track (→p.86).
By using the clipboard you can paste the audio file at a location other than the beginning of a track.
You can use this operation to import WAV format audio files of 44.1 / 48 / 96 kHz sampling frequency, 16 / 24-bit depth, and 1 (mono) or 2 (stereo) channels.

If you are importing from CD media, WAV format files stored on ISO9660 Level 1 format CD-ROM, CD-R, or CD-RW are supported.

*When you execute **("Exec.")**, the import-destination track will be overwritten.*



1. File name cell

Displays the name of the import-source audio file. This will be the file name you chose by clicking the **Select File** button.

2. Drive **[CD, PC (USB)]**

Selects the import-source drive. When you click this button, the **Select Drive** dialog box will appear. Select a drive and click the **Yes** button (or press the panel **YES** key).

3. Select File

Selects the audio file that will be imported.
When you click this button, the **Select File** dialog box will appear. Select a file and click the **OK** button (or press the panel **YES** key). If you click the **Cancel** button (or press the panel **NO** key), your selection will be discarded.

3a. Upper level

This area indicates the directory level that is one level above the currently selected folder.

3b. File window

This area shows the folder structure of the current level. Folders and the files that can be imported are displayed here.

3c. Close

Moves upward to the next higher folder.

3d. Open

If the selected item is a folder, opens that folder.

3e. Prev

Clicking Prev (Preview) plays back the first six seconds (for 44.1 kHz / 16-bit data) of the selected audio file.

You cannot play back while loading the file.

4. **Trk** **[1...32, ML, MR, 1-2...31-32, MST, Clip]**
Select the import-destination track.
ML and **MR** are the master track L and R, and **MST** is the stereo master track

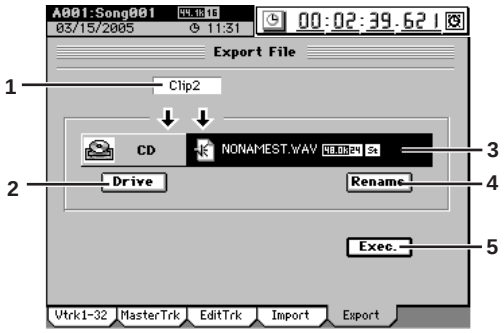
5. **Exec.**
When you click this button, the **Import File** dialog box will appear.
Click the **Yes** button (or press the panel **YES** key) to execute the import, or click the **No** button (or press the panel **NO** key) to cancel.
If you import a song whose sampling frequency and bit depth differs from that of the current song, the sampling frequency and bit-depth will be converted. If the song has a different sampling frequency, conversion will be performed; this will take a certain amount of time.

5a. Dither

By clicking this button when importing a 24-bit file into a 16-bit song, you can minimize the quantization noise that may occur when the bit depth is converted.

10-5. Export File

Audio track data copied to the D3200's clipboard can be exported as an audio file to the PC drive or CD-R / RW drive (→p.87).
The audio file will be exported as a WAV format file of the same sampling frequency and bit depth as the data in the clipboard.



1. **Clip#**
Indicates the state of the clipboard.
is the number of tracks in the clipboard. If you export four or more tracks in a single operation, all will be saved as mono files.

2. **Drive** **[CD, PC (USB)]**
Selects the export-destination drive. When you click this button, the **Select Drive** dialog box will appear. Select the desired drive, and click the **Yes** button (or press the panel **YES** key).

3. **File name**
Displays the file name that will be saved on the export-destination. If you want to edit this name, click the **Rename** button.

4. **Rename**
When you click this button, the **Rename** dialog box will appear, allowing you to rename the file.
For details on the allowable file names, refer to "More about drives and files" (→p.171).

5. **Exec.**
When you click this button, the **Export File** dialog box will appear. Click the **Yes** button (or press the panel **YES** key) to export the data, or click the **No** button (or press the panel **NO** key) to cancel.
If you want to abort an export operation while it is being performed, click the **Cancel** button (or press the panel **NO** key).
When the export has been completed, the display will indicate **Completed**. Click the **OK** button (or press the panel **YES** key).
Before exporting to a CD, you can specify the writing speed and whether the disc will be finalized. Finalize the disc if you will not be writing any further data to it.

It is not possible to perform just the Finalize operation here. Finalization will be performed after the export is executed.

11. CD

Here you can use the internal CD-RW drive to create or play audio CDs.

Some audio CD players may be unable to play a CD-R/RW disc.

Some audio CD players are unable to play the first 100 msec of an audio track. To avoid this, we recommend that when creating an audio CD, you leave a blank of about 300–600 msec at the beginning of the song for track 1. (→p.138 "11a. Album CD", 6. Gap)

Music discs utilizing copy-protection technology that does not comply with the Compact Disc (CD) specification cannot be played back.

Press the **CD** key to access this menu screen.
You can press the **CD** key to return to this menu screen from the dialog box that appears when you click a menu button (**Album CD**, **Track at once**, **CD PLAYER**).
Press the **CD** key once again to return to the menu screen that had been selected.

1. Information

When you click this button, the type of disc inserted in the CD-R/RW drive, the remaining writable time, the already-written time, and the number of tracks will be read and displayed in the screen.

Disc type

NoDisc: No disc is inserted. Alternatively, the disc cannot be recognized.
CDR: An unfinalized (writable) CD-R
CDRW: An unfinalized (writable) CD-RW
Illegal Disk: The disc cannot be recognized

If nothing is displayed, the disc is not writable (e.g., a commercial audio CD or a finalized CD-R/RW).

Disc content

Blank: A blank disc containing no data
Audio: A disc containing audio data
ISO9660: A disc containing backup data, WAV etc.
D12/1200: A disc containing Korg D12/D1200/D1200mkII backup data
D16/1600: A disc containing Korg D16/D1600/D1600mkII backup data
Other: A disc containing data other than audio or backup data.
UDF: A UDF format disc created by the Korg Triton or similar device

Disc capacity usage

If the disc content is Audio
Free: Remaining recordable time
Used: Recorded time and total number of tracks

If the disc content is Data Disc
Free: Remaining storage capacity (MB)
Used: Used storage capacity (MB)

If the disc content is Other
nothing will be displayed.

2. Erase CDRW

This erases all the data that has been written to a CD-RW disc.
When you click this button, the **Erase CD-RW** dialog box will appear. Use **"Option"** to select the method of erasure, and click the **Yes** button (or press the panel **YES** key), or click the **No** button (or press the panel **NO** key) to erase the disc.

Quick: Erase the disc quickly.
Full: Erase the disc completely. Use this if you experience problems such as if a disc erased using Quick cannot be recognized. This method will require more time.

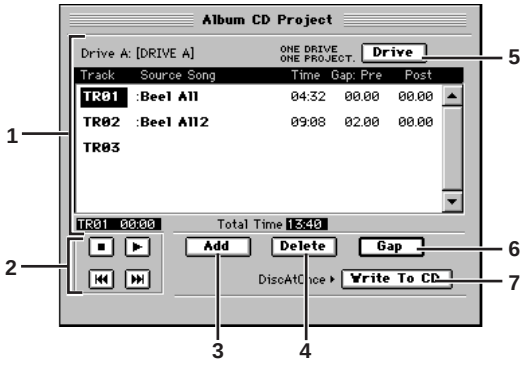
This operation cannot be performed on a CD-R disc. Data that is erased by this operation cannot be recovered.

11a. Album CD

Album CD Project lets you create an audio CD using Disc At Once. The data will be written to the CD-R/RW as 16-bit/44.1 kHz data in audio CD format.

The disc is written using the Disc At Once method, including finalization. No further data can be written to the disc afterward.

*The CD-R/RW cannot be written if there is a track less than four seconds long. Adjust your settings so that the **PostGapTime** and the track time add up to at least four seconds.*



1. **Track list**
   This displays a list of the songs that will be written to the CD-R/RW disc as an album CD.
   The list shows the track numbers, song name (mark name), time, pre-gap, and post-gap of the tracks you registered for the album CD.
   At the bottom of the window, the duration of the selected (highlighted) track and the total time of the album are displayed.

2. **Preview player**
   Use these buttons to audition the songs shown in the list. You can also use the top panel transport keys listed below in square brackets [ ] to perform these operations..

   ▶ : [PLAY] Plays the song.
   ■ : [STOP] Stops the song.
   ⏮ : [REW] Moves to the preceding song each time you click this button. If you press this during playback, you will move to the beginning of the currently-playing song.
   ⏭ : [FF] Moves to the next song each time you click this button. If you press this during playback, you will move to the beginning of the next song.

   You cannot use these buttons if the list contains no songs.

   note *If the CD-R/RW drive contains a blank disc, and there are songs in the list display, pressing the top panel transport key **REC** will open the **Write to CD** dialog box.*

3. **Add**
   This button adds a song to the list of songs that will be written to the CD-R/RW disc. Select the track number and click the button to display the **Add TR** dialog box. Select the desired song from the song list.
   The song number, song name, mark icon, sampling frequency/bit-depth, protect icon, and date of each song will be displayed.
   The song data that will be written to the CD-R/RW will be the song data as of when you clicked **Add** button. If you edit that song after clicking the **Add** button, you will need to add that song to this list once again if you want to write the updated data.

Cancel button
Returns to the **Album CD Project** page without adding the selected song to the list.

OK button
Adds the selected song to the list.
When you click this button, the display will ask **"Are you sure?"** Press **Yes** to confirm your settings (or **No** to discard them) and return to the **Album CD Project** page.

You cannot add a song whose master track contains no data.

If you select a song that is other than 44.1 kHz/16-bit, click the **Dither** button to turn it on (highlighted), and the sampling frequency and bit-depth will be converted. The converted data will consume additional disc capacity. If the song has a different sampling frequency, conversion will be performed; this will take a certain amount of time to complete.

Only the data to be burned to the CD-R/RW disc will be converted; the song data itself will remain in its original sampling frequency and bit-depth.

4. **Delete**
   Deletes a song from the track list. In the list, choose the song that you want to delete and click this button to display the **Delete** dialog box. Click the **Yes** button (or press the panel **YES** key) to delete the song from the list. Subsequent song tracks will be moved back one track.
   If you want to delete all songs from the list, click the **Select All** button and then click the **Yes** button (or press the panel **YES** key).

5. **Drive**
   Selects the drive that contains the songs you want to write to the CD-R/RW disc. When you click this button, the **Select Drive** dialog box will appear.
   The dialog box will display the total capacity of the internal drive, and a list of the song drives.
   For each song drive, the display will show the drive name, partition size, partition name, amount used, and remaining space.

   The songs to be written to one CD-R/RW disc must all be on one song drive.

6. **Gap**
   This lets you specify a duration of silence that will be inserted before and after a song. When you click the button, the **Edit Gap** dialog box will appear.
   In this dialog box, **Frm** refers to a CDDA Frame, where 75 Frm = one second.

6a. PreGapTime [0…59 (sec), 0…74 (Frm)]
Specifies the duration of silence to be inserted before the track (song). The default is two seconds.

note *The default setting will be 0 seconds for the song added to TR1 (track 1) or for a track divided by album CD track marks (→p.145).*

6b. PostGapTime [0…59 (sec), 0…74 (Frm)]
Specifies the duration of silence to be inserted after the track (song). The default is 0 seconds.

7. Write To CD
Executes writing to the CD-R/RW.
When you click this button, the **Write to CD** dialog box will appear, displaying a message of **"Obey Copyright Rules."** Carefully read the section "COPYRIGHT WARNING" (→p.iii), and use this function only if you accept the terms.

- Use the **"Write Speed"** list button to specify the speed at which the data will be written to CD-R/RW.
- When you click the **Yes** button (or press the panel **YES** key), the D3200 will begin creating the image file. You can click the **Cancel** button (or press the panel **NO** key) to abort this process.
- When the image file has been created, the D3200 will begin writing the disc. This cannot be aborted.
- The disc will automatically be finalized.
- When the disc has been written a message of **"Write Another CD?"** will appear.
- If you want to create another identical CD, click the **Yes** button (or press the panel **YES** key). If not, click the **No** button (or press the panel **NO** key).

If you click the **Yes** button (or press the panel **YES** key), a message of **"Insert Next Disc. After Insert, Press OK."** will appear, and the CD-R/RW drive tray will open. Insert another CD and click the **OK** button (or press the panel **YES** key).
If you successively write another disc, the D3200 will not need to create the image file again, so the process will take less time.

note *A CD-R/RW disc written using **Album CD Project** will be finalized automatically.*

Changing the writing speed will not affect the time that is required to create the temporary image file that is created before writing an audio CD.

11b. Track at once

Here you can write an audio CD Track using the Track At Once method, erase a CD-RW disc, or finalize a disc. Additional data can be written to a disc until the disc is finalized.

1. Erase
This erases all the data that has been written to a CD-RW disc.
When you click this button, the **Erase CD-RW** dialog box will appear. Use **"Option"** to select the method of erasure, and click the **Yes** button (or press the panel **YES** key) to erase the disc.

Quick: Erase the disc quickly.
Full: Erase the disc completely. Use this if you experience problems such as if a disc erased using Quick cannot be recognized. This method will require more time.

This operation cannot be performed on a CD-R disc. Data that is erased by this operation cannot be recovered.

2. Track cell
This shows the song number, song name, and recording time of the song whose track you will write to the CD.

3. Write To CD
This button writes the song shown in the track cell to the CD-R/RW disc.
When you click this button, the **Write to CD** dialog box will appear, displaying a message of **"Obey Copyright Rules."** Carefully read the section "COPYRIGHT WARNING" (→p.iii), and use this function only if you accept the terms.

- Use the **"Write Speed"** to specify the speed at which the data will be written to CD-R/RW.
- When you click the **Yes** button (or press the panel **YES** key), the D3200 will begin creating the image file. You can click the **Cancel** button (or press the panel **NO** key) to abort this process.

note *If the selected song is 24-bit, click the **Dither** button to turn it on if you want dithering to be performed.*

- When the image file has been created, the D3200 will begin writing to the disc. This cannot be aborted.
- When the disc has been written a message of **"Write Another CD?"** will appear.
- If you want to create another identical CD, click the **Yes** button (or press the panel **YES** key). If not, click the **No** button (or press the panel **NO** key).

If you click the **Yes** button (or press the panel **YES** key), a message of **"Insert Next Disc. After Insert, Press OK."** will appear, and the CD-R/RW drive tray will open. Insert another CD and click the **OK** button (or press the panel **YES** key).
If you do write another disc at this time, the D3200 will not need to create the image file again, so the process will take less time.

4. Get Information

When you click this button, the disc inserted in the CD-R/RW drive will be read to determine the type of disc, the remaining time that can be written, the already-written time, and the number of tracks.

Disc type

NoDisc: No disc is inserted. Alternatively, the disc cannot be recognized.
CDR: A CD-R that has not been finalized (i.e., still writable)
CDRW: A CD-RW that has not been finalized (i.e., still writable)
Illegal Disc: A disc that cannot be recognized

If nothing is displayed, the drive contains a disc that cannot be written (such as a commercial audio CD or a finalized CD-R/RW).

Disc content

Blank: A blank disc containing no data
Audio: A disc containing audio data
ISO9660: A disc containing backup data or WAV data
D12/1200: A disc containing Korg D12/D1200/D1200mkII backup data
D16/1600: A disc containing Korg D16/D1600/D1600mkII backup data
Other: A disc containing data other than audio or backup data
UDF: A UDF format disc created by the Korg Triton or similar device

Disc space usage

If the disc content is Audio
Free: Remaining recordable time
Used: Already-recorded time and total number of tracks

If the disc content is Data Disc
Free: Remaining recordable space (MB)
Used: Already-recorded space (MB)

If the disc content is Other
Nothing is displayed.

5. Finalize

This button finalizes the disc.
In order for a CD-R/RW disc created by the D3200 to be played in an audio CD player, you must execute this Finalize operation. A disc can be finalized only once.
The **Finalize** dialog box will appear when you click this button. Click the **Yes** button (or press the panel **YES** key) to execute.

This can be used only to finalize a Track At Once audio CD that was written in this screen.

*Once a disc has been finalized, no further songs can be written to it. This means that you must first write all of the desired songs to the disc, and then click the **Finalize** button to finalize the disc.*

You cannot play back a disc that has not been finalized.

11c. CD PLAYER

Here you can play back a disc inserted in the CD-R/RW drive.
You can also import data from the disc into the clipboard, and import it into the D3200 as WAV data.

When using the D3200's CD-RW drive as a CD player, CD recording is not available.

Use the monitor knob to adjust the CD playback volume.

1. CD Import

If you turn this on, the CD Import dialog box will appear. Click the **Yes** button (or press the panel **YES** key) to execute.
When you click the button, the **CD Import** dialog box will appear, and a message of **"Obey Copyright Rules"** will appear. Carefully read "COPYRIGHT WARNING" (→p.iii), and use this function only if you accept the terms.

- Click an radio button to select the import method.
  Clip:
  Import as track data into the clipboard.
  WAV:
  Import as WAV data into the import area.
  If you want to rename the WAV data that will be imported, click the **Rename** button to open the dialog box, and edit the name. You can input a name of up to eight characters (→p.99).
- Click the **Yes** button (or press the panel **YES** key) to begin importing. You can click the **Cancel** button (or press the panel **NO** key) to cancel the import.

2. Information window

The upper line displays the track number and messages. The lower line shows the state (playing, stopped, etc.) of the CD player, the elapsed time, and the level meter.

3. Control buttons

Use these buttons to play or stop the audio CD, or to select tracks (songs).
You can also control these operations using the top panel transport keys listed below in square brackets [ ].

[▶II]: [PLAY] Play or pause the track.
[■]: [STOP] Stop the track.
[⏮]: [FF] Move to the next track each time you click. If you press this while playing, you will move to the beginning of the next track.
[◀◀]: [FF] held down Fast-forward the track.
[▶▶]: [REW] held down Rewind the track.
[⏭]: [REW] Move to the previous track each time you click. If you press this while playing, you will move to the beginning of the currently-playing track.

You can't eject the CD while paused. If you move to a different page while paused, the player will switch to Stop mode.

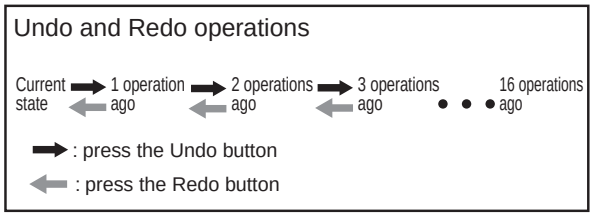
note *If the CD-R/RW drive contains an audio CD, pressing the top panel transport key **REC** will open the **CD Import** dialog box.*

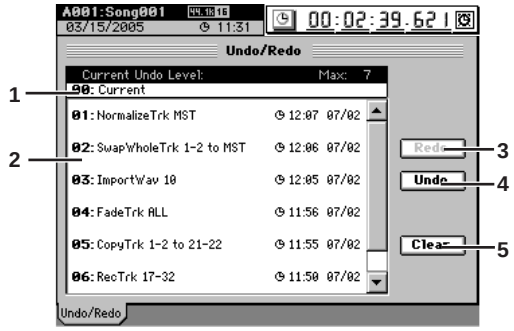
12. UNDO

After executing the operations listed below, you can use the Undo function to return the data to the state it was in prior to performing that operation. If desired, you can then use the Redo function to restore the most recent edit.

- **Recording**
- **Track editing**
  CopyTrack, InsertTrack, EraseTrack, DeleteTrack, SwapTrack, ReverseTrack, OptimizeTrack, Exp/CompTrack, CopyWholeTrack, SwapWholeTrack, FadeTrack, NormalizeTrack, NoiseReduction, ErasePunchNoise, EraseSilence
- **Audio file import**

Press the **UNDO** key to access the **"Undo/Redo"** tab page. If you decide not to Undo, press any other page mode key. By pressing the **UNDO** key you can return to the page that was selected before you pressed the key.





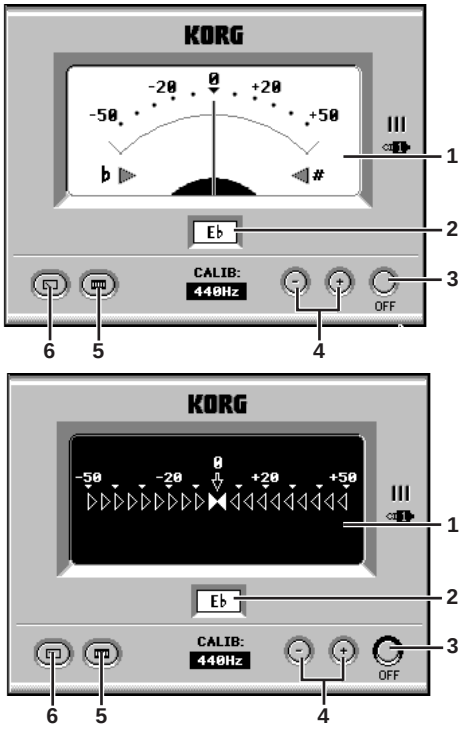
1. **Current undo level**
   This area indicates the current state, which you can revert to prior states.
2. **Undo list** **[01…16]**
   This lists the operations that can be undone.
   When you execute Undo, you will return to the state prior to executing the selected operation.
   The undo list saves up to the sixteen most recent operations.

   *Click the **Redo** or **Undo** buttons to select "undo levels" in the undo list. You cannot select these directly by clicking the screen.*
3. **Redo**
   Executes a Redo operation.
4. **Undo**
   Executes an Undo operation.
5. **Clear**
   You can click this button to erase the undo data that is preserved, thereby recovering more free space on the disk.

   note *The D3200 preserves up to sixteen levels of recording and editing history, and lets you use the Undo function to revert to prior states. For this reason, old data that no longer exists in the tracks may still remain on the disk without being erased. This data will occupy space on the disk, and may cause the available recording time to be less than you would otherwise expect.*

13. TUNER

You can use the built-in tuner to tune an instrument connected to INPUT 1 or GUITAR IN.



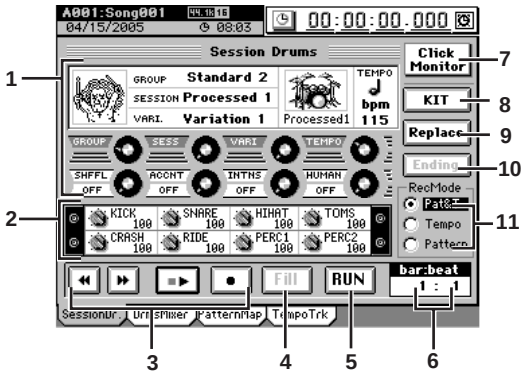
1. **CENT Scale** **[–50...+50]**
   When the tuning is correct, the needle will be at the center 0 position, and the flat "▷" indicator and sharp "◁" indicator will both light.
   If the pitch is flat, only the "▷" indicator will light. If the pitch is sharp, only the "◁" indicator will light.
   The pitch deviation is indicated in units of cents. (100 cents = one semitone, and 1200 cents = one octave)
2. **Note Display** **[C...B]**
   This indicates the name of the note that is closest to the pitch you input.
   The tuner cannot detect two or more notes simultaneously.
3. **OFF**
   Click this when you are finished using the tuner. When you turn off the tuner, you will return to the page that had been selected before the tuner screen.
4. **CALIB** **[430...440...449 Hz]**
   This indicates the reference frequency.
   Normally you will leave this at "440".
5. **Digital display button**
   This selects a digital-style tuner display for tuning the currently selected input source.
6. **Analog display button**
   This selects an analog-style (needle) tuner display for tuning the currently selected input source.

14. SESSION DRUMS

Here you can specify the song tempo and drum pattern (metronome) settings, make settings for the drum track, and create a pattern map.
When the counter shows the **"MBT"** (measure, beat, 1/96th note tick) indication (→p.98), it will move according to the tempo you specify.

You can't record drum patterns or create or edit a pattern map if the song's Protect setting is turned on.

14-1. Session Drums



1. Drum pattern settings
Here you can set various parameters for the drum pattern. The settings are shown as icons, graphics, and as numerical values. You can also use matrix knobs 1–8 to edit these parameters.

note *When you turn the knobs, the **GROUP**, **SESS**, and **VARI** parameters will operate in JUMP mode and the **TEMPO** parameter will operate in MATCH mode, regardless of the **Fader/Knob Control** setting in the **SYSTEM/MIDI**, **"Control"** tab page.*

__GROUP__, __SESS__, __VARI__, and __TEMPO__ settings can be edited only while recording or auditioning (5. RUN) (unless __7. Click Monitor__ is on).

GROUP **[Metronome...etc.]**
Selects a genre of family of drum patterns.

SESS
Selects a session (drum performance pattern set) from within the group selected by GROUP.

VARI
Selects a variation of the pattern selected by SESSION. If you selected Metronome as the GROUP, this will select the time signature.

TEMPO **[40...255]**
Specifies the tempo of the drumming.
The range is ♩=40–255.

SHFFL **[OFF, 0...100(%)]**
Specifies a shuffle effect for the drumming. This will be OFF if you turn the knob all the way toward the left.

ACCNT **[OFF, 1...20]**
Switches the accent table for the drumming. This will be OFF if you turn the knob all the way toward the left.

INTNS **[OFF, 1...10]**
Adjusts the strength (intensity) of the accent. This will be OFF if you turn the knob all the way toward the left.

HUMAN **[OFF, 1...20]**
Applies a "humanize" effect that creates slight variations in the velocity and timing. This will be OFF if you turn the knob all the way toward the left.

2. Drum kit parameter knobs
Here you can adjust the parameters of the drum kit that is being used for the drum performance.
You can also use matrix knobs 9–16 to edit these parameters.
With the factory settings, level is selected as the parameter, but you can change this in the **DRUM KIT** dialog box of **8. KIT**.

3. Transport buttons
Use these to rewind, fast-forward, play and record the drumming.

⏪ ⏩ These move the location in units of measures. When you click these buttons, the counter will automatically change to the Measure/Beat/Tick indication.

▶■ Start/stop recording or playing the pattern map.

● Enable recording for the session drums.

When you are in this page, you can use the panel **LOC 1** key instead of the Start/Stop button, and the **LOC 2** key instead of the Record button. You can also move between measures by holding down the **SESSION DRUMS** key and using the panel **+/–** keys.

4. FILL
This produces a fill pattern while the drums are playing. This will begin blinking as soon as you click it, and a fill pattern will be inserted at the start of the next measure.
When you are in this page, you can use the panel **LOC 3** key instead of the Fill button.

5. RUN
Click (highlight) this to audition the drum pattern.
The pattern map will not be updated at this time.
When you are in this page, you can use the panel **LOC 4** key instead of the RUN button.
This button is also highlighted while the drum pattern is being recorded.

If you want to select a blank pattern, click this button during recording to defeat the highlighted state.
If you click the button once again to highlight it, you'll be able to make settings for the drum pattern.

If you change the **GROUP** or **SESS** while auditioning drum patterns, the drum kit and tempo will automatically change in tandem.
If you change the **GROUP** or **SESS** while recording or playing drum patterns, the currently selected drum kit and tempo will be maintained.

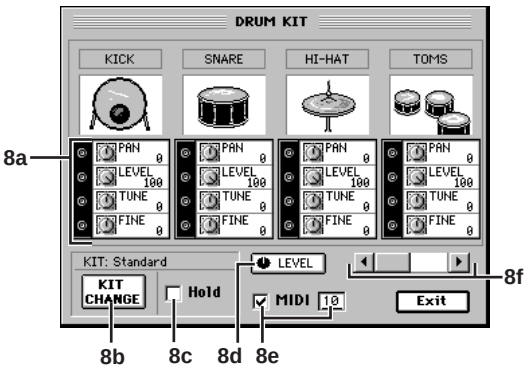
6. bar:beat
Normally this shows the measure and beat of the current location. However when you're auditioning (RUN button highlighted), this shows the measure and beat within the pattern.

7. Click Monitor
If you turn this **on** (highlighted), the pattern map will be disabled; **GROUP** will be **"Metronome," SESSION** will be **"Metro 4,"** and the drum kit will be **"Standard."** This will produce a **four-beat** metronome sound from the monitor output. The **Tempo Track** setting is ignored in this case. Use the **Tempo** knob to adjust the tempo. You can change the pattern or tempo even while stopped.

If you turn this **off**, the tempo track and pattern map will be enabled, and you'll be able to record and perform **Replace** operations. In this case, the pattern will be output from the master output.
This button is linked with the **Drums** button in the **MIXER**, **SOLO/MONITOR** **"Monitor"** tab page.

8. KIT
Click this to change the drum kit that is used to play the drum pattern. Alternatively, you can hold down the panel SESSION DRUMS key and press the LOC 1 key.
When you've finished making settings, click the **Exit** button (or press the panel **YES** key).

Changes you make to the drum kit will affect only the currently selected drum pattern. Although you can change the variation after modifying the kit, switching the group or section will cause your drum kit edits to be discarded; they will revert to the previous settings. If you want to keep the changes you make to a drum kit, check the **Hold** check box in the **DRUM KIT** dialog box.

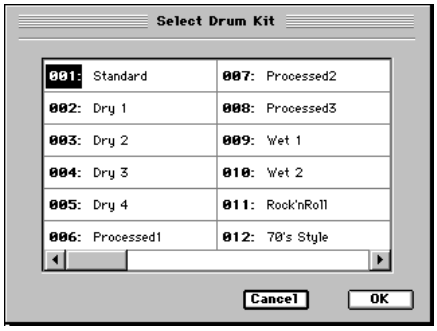


8a. Parameters

Here you can edit the parameters for each sound used by the drum kit. You can also use the Knob Matrix to edit these parameters.

8b. KIT CHANGE

This exchanges the drum kit for another drum kit. Select the desired drum kit and click the **OK** button (or press the panel **YES** key) to return to the **DRUM KIT** dialog box. If you decide to discard the changes you made, click the **Cancel** button (or press the panel **NO** key).



8c. Hold

If this is checked, the 8a. Parameters and the 8b. KIT CHANGE settings will be maintained.

The memorized settings will be used for all drum patterns of the song.

If this is unchecked, the drum kit settings for each drum pattern will be used.

8d. Parameter assign button

This specifies the parameter that is controlled by the **2. Drum Kit parameter knobs**. Click this knob, and in the **Knob Assign** dialog box, use the radio buttons to select the desired parameter, and click the **OK** button (or press the panel **YES** key).

note *If you select None, matrix knobs 9–16 will do nothing.*

8e. MIDI

If this is checked, the drum kit will sound when it receives MIDI notes. If this is unchecked, received MIDI notes will not play the drum kit. If you want to change the MIDI receive channel, click the cell and make the desired setting.

8f. Group selection scroll bar/buttons

Use the scroll bar and buttons to switch between groups of four drums for editing.

9. Replace

When you click this button, the drum pattern settings recorded for the measure of the current location can be edited in the **Edit Map Event** dialog box (→p.144).

Alternatively, you can hold down the panel **SESSION DRUMS** key and press the **LOC 2** key instead of clicking this button.

The settings that can be edited will depend on the **11. Rec Mode** setting.

Pat&T

The pattern, the range of measures, and the tempo can be changed.

Tempo

The tempo will be changed to the tempo you specify.

Pattern

The pattern and the range of measures can be changed.

Pattern changes will occur in units of measures, but tempo changes will affect the tempo of the current and all subsequent measures.

10. Ending

This recalls an ending. The button will begin blinking the moment you click it, and an ending pattern will play at the next measure. When the ending pattern has played, a blank pattern will be selected.

11. Rec Mode

Use the radio buttons to select the mode in which you will record drum patterns and create or edit (or **9. Replace**) pattern map events.

Pat&T

Both pattern and tempo changes will be recorded.

Tempo

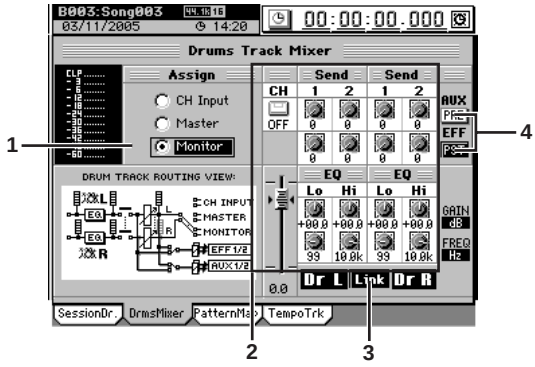
Only tempo changes will be recorded.

Pattern

Only pattern changes will be recorded.

14-2. Drums Track Mixer

Here you can view and edit the parameters of the drum track.



1. Assign

This specifies where the drum pattern playback will be output.

CH Input

The drum pattern playback will be assigned to the channel input. If this is selected, you can use the **"Ch Assign"** tab page to assign **Drums L**, **R** as desired, and record the drum pattern performance on a channel track.

Master

The drum pattern playback will be output to the master bus.

Monitor

The drum pattern playback will be added only to the audio that is output from the monitor jacks.

note *If the **14-1. Session Drums** parameter **7. Click Monitor** is on, this Assign parameter will automatically be set to **"Monitor."** If this parameter is off, **"Master"** will automatically be selected.*

2. Parameters

You can use the drum track fader and key to turn the drum track on / off and adjust the volume.

Use the Knob Matrix to adjust the send levels and EQ settings. You can also click an icon in the screen and use the **value dial** (or **+/–** keys) to edit the setting.

3. Link

Click this if you want the send and EQ parameters to be the same values for L and R. If you want to set the parameters individually for left and right, click this to turn it off, and then set the parameters individually.

4. PRE/PST

This specifies whether the sends will be taken from before the fader (pre-fader) or from after the fader (post-fader).

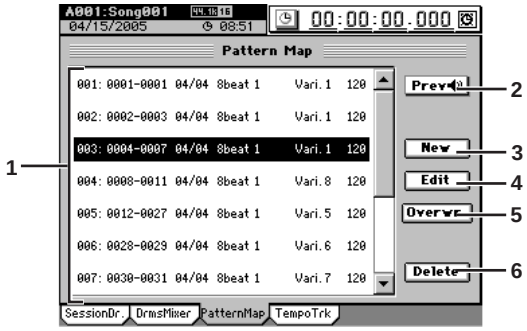
PRE: Send the pre-fader level

PST: Send the post-fader level

14-3. Pattern Map

Here you can edit the pattern map to add new events during song recording or playback, or change the time signature, drum pattern, or tempo.

You can specify events in the pattern map at intervals of measures.



1. Pattern map window **[001...200]**

Select the pattern map event that you want to edit.

The list shows the event number, the starting measure and ending measure for the pattern, the time signature, the session name, the variation name, and the tempo.

2. Prev

Turn this on (highlighted) if you want to preview the pattern of the event that is selected in the pattern map window. This is valid only in this tab page, and will automatically be switched off when you play back the recorder or move to another page.

3. New

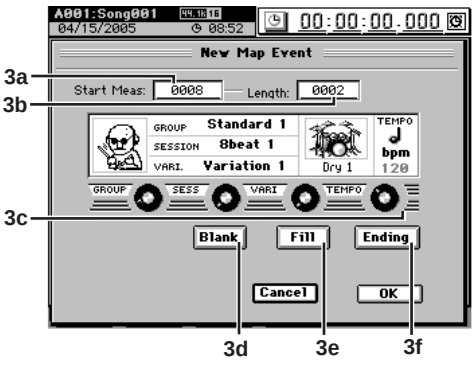
Creates a new pattern map event.

Click this button to add a new event.

When you click this button, the **New Map Event** dialog box will open, and you will automatically be in Preview mode (**2. Prev** turned on).

You can't add events if RecMode is set to Tempo.

RecMode = Pat&T



3a. Start Meas **[0001...9999]**

Specifies the location at which the pattern map event will be created (begun, inserted), in units of measures.

3b. Length **[0001...9999]**

Specifies the number of measures for the pattern.

3c. GROUP, SESS, VARI, TEMPO

Use **GROUP** to select the group (type) of drumming pattern, **SESS** to select a pattern set (session) from the specified group, **VARI** to select a pattern variation and **TEMPO** to Specifies the tempo of the drumming.

3d. Blank

Click (highlight) this to select a blank pattern.

3e. Fill

Click (highlight) this to select a fill pattern.

3f. Ending

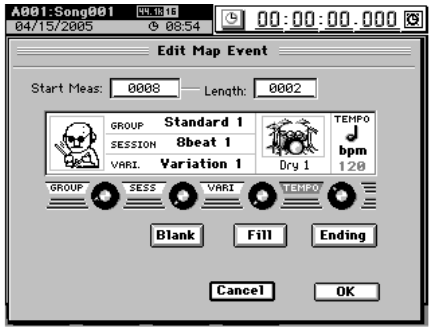
Click (highlight) this to select an ending pattern.

4. Edit

Edits the settings of a pattern map event.

Select this if you want to modify an existing event. Select (highlight) the event you want to modify, and click this button to display the **Edit Map Event** dialog box where you can edit the parameters. (See the preceding section, 3. New)

RecMode = Pattern

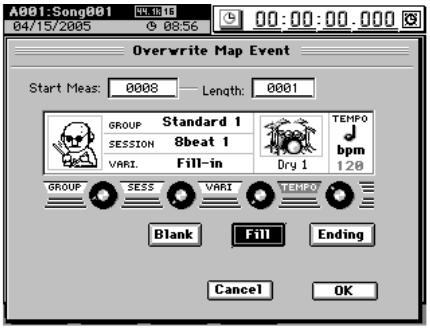


If you set the Start Meas setting later (or earlier) than the beginning of the selected event, the Length of the preceding event will be lengthened (or shortened) by the difference.

5. Overwr.

The settings of the pattern map event will be changed by being overwritten. Choose this if you want to add an event without changing the length of the pattern map you've already created. The overwritten area will be divided as a new event. Select the event you want to modify (it will be highlighted), click this button to open the **Overwrite Map Event** dialog box, and set the parameters. (Refer to the preceding section, 3. New)

RecMode = Pattern



*If the **Start Meas** and **Length** settings exceed the range of the event you selected, the event(s) corresponding to that portion of the map will also be overwritten. If the **Start Meas** and **Length** settings are identical to the range of the event you selected, no new event will be added; the result will be the same as 4. Edit.*

6. Delete

Deletes an event from the pattern map.

In the pattern map window, select the event you want to delete and click this button to open the **Delete** dialog box.

Click the **Yes** button to delete the event. If you decide not to delete it, click the **No** button (or press the panel **NO** key). When you execute this operation, the selected event will be deleted, and subsequent events will be moved forward by one step.
If you want to delete all events in a single operation, turn the **Select All** button on (highlighted), and execute this Delete operation.

*You can't delete events if **RecMode** is set to **Tempo**.*

14-4. Tempo Track

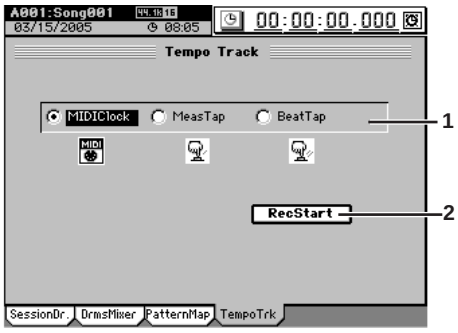
Here you can record the tempo track. You can do this in one of two ways.

- Recording MIDI clock messages
  You can synchronize to an external MIDI sequencer by recording the MIDI Clock messages received from the external MIDI sequencer so that this data will determine the tempo of the song.
- Recording tap tempo
  You can specify the tempo by tapping (either the **PLAY** key or a foot switch) while the song plays back. If you use this method to specify the tempo of a song whose tempo is unknown (such as a song recorded from a CD), you will then be able to edit the tracks in units of measures.

For the recording procedure refer to "6-1. Tempo track" (→p.63).

The above two methods of recording the tempo track store their data in the same area; only the last-recorded data is maintained. It is not possible to have two tempo tracks of data.

If the memory becomes full while recording tempo data, recording will end automatically.



1. Tempo Rec Mode [MIDIClock, MeasTap, BeatTap]
Selects the type of tempo track to be recorded.

MIDIClock:
The tempo track will be created by recording MIDI clock data from a song created on an external sequencer.

MeasTap:
The tempo track will be created by tapping at the beginning of each measure.

BeatTap:
The tempo track will be created by tapping at the beginning of each beat.

2. RecStart
This button displays the record-ready dialog box.
If you are recording MIDI clock messages, recording will begin when the D3200 receives MIDI clock messages from your external MIDI sequencer.

If you are recording tap tempo, press the **PLAY** key or the foot switch. Tap tempo will be recorded according to the intervals at which you press the key or foot switch.

note *The tempo will be recorded from the beginning of the song.*

note *The tempo at the measure or beat where you stop tempo recording will be automatically copied all the way to the end of the song.*

15. STORE

This stores the current location so it can be saved as a locate point, mark or scene.

When you press the **STORE** key, the location at that moment is preserved, and you can assign that location to a locate point, scene, or mark point by pressing the appropriate key. If you press the **STORE** key once again instead of pressing a key to specify the assignment, the stored location will be discarded. For details on registering and using locations, refer to Locate (→p.38), Scene (→p.50), or Mark (→p.38).

16. SCENE

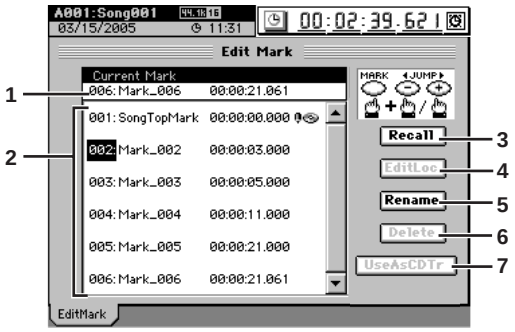
Refer to "2c. FADER / PAN / AUTOMATION" (→p.105, Edit Scene).

17. MARK

You can register marks at a variety of locations, and then instantly change the current location of the song to the location registered to a mark. You can also assign a name to each mark, and use them to indicate sections within a song. (→p.38)
To move between marks, hold down the **MARK** key and use the **+** (or **–**) key.
If you add the Album CD Track Marks to a mark, the mark will be recognized as a track division for a CD you create.

note *You can also use a PS-1 foot switch (sold separately) instead of the **MARK** key. (→p.119)*

You can register up to one hundred marks in each song. Mark 001 is automatically created at the counter 0 location with a name of **"Song Top Mark."**



1. Current Mark [001…100]
This is the mark at or immediately before the current location. The mark name, location, and the Album CD Track Marks are displayed beside the mark number.

2. **Mark list** **[001…100]**
Here you can select the mark number that you want to recall, edit, rename, or delete. The mark name, location, and the Album CD Track Marks are displayed beside the mark number. Mark numbers are reassigned automatically in order of their location.

3. **Recall**
When you click this button, the mark selected in the mark list will be recalled, and the current song location will change to that location.

4. **EditLoc**
When you click this button, the **Edit Mark Location** dialog box will appear. Edit the location of the mark selected in the mark list, and click the **Yes** button (or press the panel **YES** key) to apply the change. To discard the change, click the **No** button (or press the panel **NO** key).

You cannot edit the location mark 001.

5. **Rename**
This lets you rename the mark selected in the mark list. Click the button to display the **Rename** dialog box, and edit the name of the mark. You can input a name of up to sixteen characters. (→p.99)

6. **Delete**
Click this button to open the **Delete** dialog box, and delete the mark. If you click the **Select All** button on (highlighted), all marks will be selected for deletion. To delete the marks, click the **Yes** button (or press the panel **YES** key). If you decide not to delete, click the **No** button (or press the panel **NO** key).

You cannot delete mark 001.

Deletion of a mark cannot be Undone.

7. **Use As CD Tr**
When you want to write a continuous live recording or a long song to a CD and create track indexes to mark certain sections or individual movements, you can use this setting to assign the selected mark as a track divider on the CD.
When you select a mark in the mark list and click the **Use As CD Tr** button, a CD Track Mark icon "" will be displayed for that mark, and it will be assigned as a track divider. You can cancel this assignment by clicking the **Use As CD Tr** button once again.

Album CD Track Marks are used only when you write an Album CD Project.
If you write using Track At Once, the Album CD Track Marks are ignored, and the song will be written as one track (song).

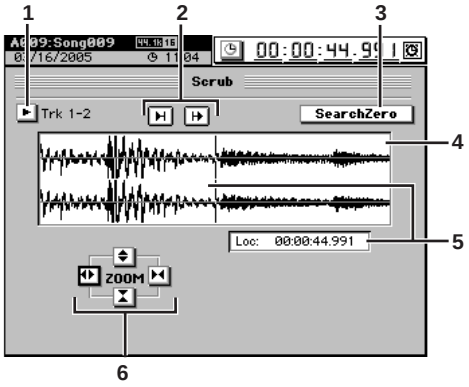
18. SCRUB

This lets you "scrub" the audio data in order to register or edit locate points or mark locations more precisely.

Press the **SCRUB** key to display the **"Scrub"** page. To stop the Scrub function, press any other page mode key.
If you press the **SCRUB** key again, you will return to the page in which you were before pressing that key.

The Scrub function lets you play back the track data by turning the **value dial**, so that you can find a desired location in the song while listening to the sound.
This is analogous to manually turning a vinyl record on a turntable to find the beginning of a song while listening to the sound.
The waveform window will show the waveform of the selected track.

note *You can move the location by clicking in the waveform window and then moving the ClickPoint to left or right while holding down the panel JUMP key. You can also move the location by clicking and holding in the waveform window and then moving the joystick to left or right.*



1. **Track selection**
Click the popup button, use the buttons in the **Select Track** dialog box to select the track in which you want to find a location, and click the **OK** button (or press the panel **YES** key). If you click the **Stereo** button, the waveforms of two adjacent channels will be displayed in the upper and lower part of the waveform window.

2. **Preview playback buttons**
You can also perform these operations using the top panel transport keys listed below in square brackets [ ].

[REW] Plays back approximately two seconds ending at the current location (the Play To function).

[FF] Plays back approximately two seconds starting from the current location (the Play From function).

3. **SearchZero**
If this button is clicked, you can turn the **value dial** to find the next or previous zero-cross point.

note *A "zero-cross" point is a location where the waveform level crosses the ±0 point (the horizontal line in the center of the waveform window).*

4. **Waveform window**
This displays the waveform of the selected track.

5. **Loc (Location)** **[000:00.000…]**
This displays the current location. The current location is also shown by the vertical bar in the waveform window. You can turn the **value dial** to move this while hearing the audio and watching the waveform location.

6. **ZOOM**
Adjusts the size of the waveform display and the playback speed:

vertically expands the waveform display.
vertically shrinks the waveform display.
horizontally expands the waveform display.
horizontally shrinks the waveform display.

note *You can operate the **ZOOM** buttons by holding down the panel **JUMP** key and using the cursor keys.*

19. LOC 1/IN, ... LOC 4/END

These keys are used to store locations within the song. **LOC 1/IN…LOC 4/END** are used in the following ways.

- Locate points (→p.37)
  You can move to a registered location by pressing the corresponding key.
- In / Out points for loop playback (→p.68)
- In / Out points for auto-punch recording (→p.66)
- Editing points for track editing (→p.69)

To register a location, press the **STORE** key and then press the desired LOC 1–6 key.

Locate functions

The location that you register for the **LOC 1/IN** key is used for the following purposes.

- Locate point 1 (IN location)
- Punch-in location for auto-punch recording
- Playback start location for loop playback
- The following locations for track editing operations
  Starting location of the copy-source for **"CopyTrk"**
  Starting location of the inserted silence for **"InsertTrk"**
  Starting location of the erased region for **"EraseTrk"**
  Starting location of the deleted region for **"DeleteTrk"**
  Starting location of the swap-source and swap-destination for **"SwapTrk"**
  Starting location of the data to be reversed for **"ReverseTrk"**
  Starting location for **"OptimizeTrk"**
  Starting location of the data to be expanded / compressed for **"ExpCmpTrk"**
  Starting location for **"FadeTrk"**
  Starting location for **"NormalizeTrk"**
  Starting location for **"ErasePunchNoise"**
  Starting location for **"EraseSilence"**

The location that you register for the **LOC 2/OUT** key is used for the following purposes.

- Locate point 2 (OUT location)
- Punch-out location for auto-punch recording
- Playback end location for loop playback
- The following locations for track editing operations
  Ending location of the copy-source for **"CopyTrk"**
  Ending location of the inserted silence for **"InsertTrk"**
  Ending location of the erased region for **"EraseTrk"**
  Ending location of the deleted region for **"DeleteTrk"**
  Ending location of the swap-source and swap-destination for **"SwapTrk"**
  Ending location of the data to be reversed for **"ReverseTrk"**
  Ending location for **"OptimizeTrk"**
  Ending location of the data to be expanded / compressed for **"ExpCmpTrk"**
  Ending location for **"FadeTrk"**
  Ending location for **"NormalizeTrk"**
  Ending location for **"ErasePunchNoise"**
  Ending location for **"EraseSilence"**

The location that you register for the **LOC 3/TO** key is used for the following purposes.

- Locate point 3 (TO location)
- The following locations for track editing operations
  Starting location of the copy-destination for **"CopyTrk"**
  Starting location of the reverse-copy destination for **"ReverseTrk"**
  Starting location + copy-destination location of the expanded / compressed data for **"ExpCmpTrk"**
  Starting location **"NoiseReduction"**

The location that you register for the **LOC 4/END** key is used for the following purposes.

- Locate point 4 (END location)
- The following locations for track editing operations
  Ending location of the data to be expanded / compressed for **"ExpCmpTrk"**
  Ending location for **"NoiseReduction"**

MIXER Navigation Tools

Tab pages within the **MIXER** page can be registered to the **LOC 1/IN–LOC 4/END** keys for quick access.

Assigning Tab Pages to the Locate keys

- **In the MIXER page, access the tab page that you want to register.**
  Hold down the MIXER key and press the STORE key; the Stored Page dialog box will appear.
  If you decide not to register this page, click the **Exit** button or press the **STORE** key once again.
- **Press the LOC 1/IN, LOC 2/OUT, LOC 3/TO, or LOC 4/END key to register the current tab page to that key. Registration is complete as soon as you press the key, and the dialog box will close.**

note *With the factory settings, the following pages are registered.*
LOC 1 CH INPUT/SubMixer, "Ch Assign" tab page
LOC 2 FADER/PAN/AUTOMATION, "Automation" tab page
LOC 3 PAIR/GROUP, "Ch Pair" tab page
LOC 4 EQ/ATT/PHASE, "MasterEQ" tab page

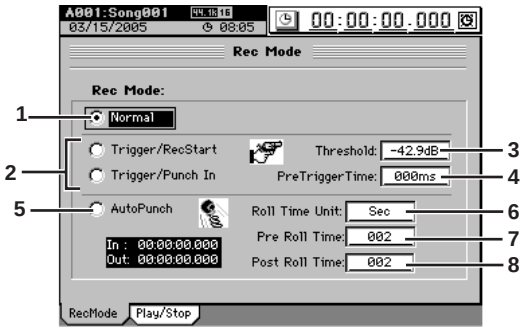
Moving between tab pages

Once the tab page has been assigned, then simply holding down the **MIXER** key and pressing one of the **LOC 1/IN–LOC 4/END** keys will move you directly to that registered tab page within the **MIXER**.

20. REC/PLAY MODE

20-1. Rec Mode

Here you can select the recording method, and make settings for trigger and auto-punch recording.



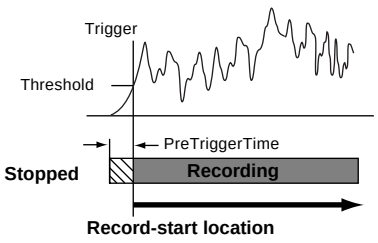
1. **Normal**
   Recording will occur normally.
2. **Trigger recording [Trigger/RecStart, Trigger/Punch In]**
   Trigger recording will be used. Recording will be started (**"triggered"**) when the volume of the input signal exceeds the threshold level (**Threshold**) you specify (→p.66). If you click either of these radio buttons, the **Trigger** indicator will light.

*Recording will not start if the volume of the input signal does not reach the threshold level (specified by **Threshold**). In this case, press the **STOP** key to cancel record-ready mode, and change the **"Threshold"** setting.*

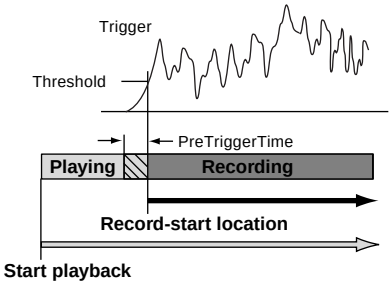
Trigger/RecStart:
Press the **REC** key (**REC** and **PLAY** keys blinking) to enter record-ready mode. If the **REC/PLAY** key is on, recording will begin automatically when the audio input for the channels whose channel key is in Record mode exceeds the threshold level.
While in record-ready mode, you can press the **STOP** key or **REC** key to cancel record-ready mode.

Trigger/Punch-In:
Press the **REC** key (the key will blink) to enter record-ready mode.
Press the **PLAY** key to play back the playback track(s). When the signal being input to the currently-playing channel exceeds the threshold level, recording will begin automatically.
While in record-ready mode, you can press the **STOP** key or **REC** key to cancel record-ready mode.

Trigger/RecStart recording



Trigger/Punch-In recording



3. Threshold **[–∞, –90.3…–30.8 dB]**
Specifies the threshold level for the input signal at which recording will be triggered when the trigger recording function is used. Recording will begin when the input level exceeds this setting.

Normally you should set this as low as possible without allowing recording to be triggered by noise. The appropriate level will depend on the input source. Re-adjust this setting if recording begins too early or too late.

4. PreTriggerTime **[0…600ms]**
Specifies the length of sound prior to the record-start time that will be captured when using trigger recording. Trigger recording will start recording when the input signal exceeds the **"Threshold"** level, but depending on the threshold setting and on the type of source, the initial attack of the first note may be lost. In such cases, you can set the **"PreTriggerTime"** so that the lower-level portion of the sound that precedes the actual start of recording will also be recorded.

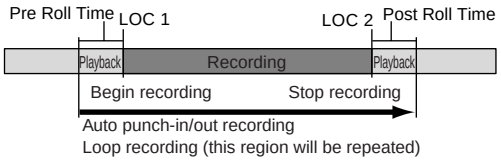
*This is not valid at the beginning of the song. Also, if you use trigger recording to continue recording after the end of a previously-recorded track, a PreTriggerTime setting other than **"000 ms"** will cause the corresponding length of the previously-recorded sound to be lost.*

5. AutoPunch
Auto punch-in / out recording is a function that automatically initiates recording (punch-in) and stops recording (punch-out) at the locations that you specify beforehand. When **"AutoPunch"** is on, the **AUTO PUNCH** indicator will be lit. When you record, punch-in / out recording will be performed.
When you record, playback will begin from a location that is the pre-roll length before the registered IN point. Recording will occur over the specified region (IN–OUT), and then playback will continue and then stop at the post-roll point.

6. Roll Time Unit
Select the units for the pre / post roll times. You can select either seconds or measures.

7. Pre Roll Time

8. Post Roll Time
Specify the pre-roll and post-roll. When using auto punch recording, you can specify a **pre-roll** time so that you can be ready to start recording at the punch-in (**IN**) point. Set the **post-roll** time so that you can confirm the transition from the end of recording (**OUT**) to the material that follows.



note *If you perform auto punch-in/out recording when **Loop Play** in the **"Play/Stop Mode"** tab page is on, recording will occur repeatedly, and each "pass" or "take" will be preserved in the undo list.*

*When recording the master track, the only **Rec Mode** you can use is **"Normal"** and **"Auto Punch."***

*The number of simultaneously-recordable tracks is limited when using punch-recording. For details about limitations on the number of tracks, refer to **Song Type** (→p.117). If you attempt to record more than the allowable number of tracks, recording cannot be executed.*

*If **MIDI Sync** is set to **MTC**, you cannot execute **Trigger/RecStart** or **Auto Punch**.*

*If **MIDI Sync** is set to **MTC Slave**, Loop Play will be ignored even if it is turned on.*

20-2. Play/Stop Mode

Here you can specify how the transport keys PLAY and STOP will operate.

1. **Play/Stop Mode**
   Click an radio button to specify how the PLAY and STOP keys will operate.

   Manual
   The keys will play and stop in the conventional way.

   Loop Play
   When you press the PLAY key, the region specified by **LOC 1/IN** and **LOC 2/OUT** will play repeatedly (→p.65). Playback will stop when you press the STOP key.
   At this time, the **LOOP** indicator will light.

   note *If you perform auto-punch in/out recording while Loop Play is on, you'll be able to record repeatedly; the recorded result will be saved in the Undo list.*

   *Loop Play is unavailable if **"MIDI Sync"** (→p.125) is set to **"MTC Slave."***

   Stop at Song End
   Playback will begin when you press the PLAY key, and will automatically end when you reach the end of the song.

   Stop at Song End & Return to Top
   Playback will begin when you press the PLAY key. When you reach the end of the song, playback will automatically stop and you will return to the beginning of the song.

   Stop at Song End & Load Next Song
   Playback will begin when you press the PLAY key. When you reach the end of the song, playback will automatically stop and the next song will be loaded.

2. **Stop at Mark Point**
   Playback will pause when you reach a location at which a mark has been assigned.

21. Transport keys

PLAY key
Click this button to begin playback (key lit). This key will blink during fast-forward, rewind, **MTC Slave**, or **Trig Rec Start**.

REC key
Arms the record mode. Recording is possible only if at least one track is set to REC. When you press this key, the D3200 will enter record-ready mode (key blinking), and recording will begin when you then press the **PLAY** key (key lit).

note *The conditions for initiating recording will differ depending on the **RecMode**, **MMC**, and **MTC** settings.*

note *If the foot switch function is set to **"Punch In Out,"** you can use the foot switch instead of the **REC** key.*

STOP key
Stops recording or playback.
You can hold down the **STOP** key and press the **REW** key to move to the beginning of the song, or hold down the **STOP** key and press the **FF** key to move to the end of the song.

FF key
Fast-forward will occur while you hold down the **FF** key during playback.
Pressing the **FF** key while stopped will cause fast-forward to continue until you press the **STOP**, **PLAY**, or **LOC 1/2/3/4** keys.

REW key
Rewind will occur while you hold down the **REW** key during playback.
Pressing the **REW** key while stopped will cause rewind to continue until you press the **STOP**, **PLAY**, or **LOC 1/2/3/4** keys.

note *If the **REC/PLAY MODE** setting **Loop Play** is on, performing fast-forward/rewind will cause fast-forward/rewind to continue until you press the **STOP**, **PLAY**, or **LOC 1/2/3/4** keys.*

Effect parameters

Algorithm list

STEREO TYPE

Category	No.	Name	Size
Reverb&Delay	1	Reverb Hall	2
	2	Smooth Hall	2
	3	Reverb Wet Plate	2
	4	Reverb Dry Plate	2
	5	Reverb Room	2
	6	Bright Room	2
	7	Early Reflection	2
	8	L/C/R Delay	2
	9	Stereo/Cross Delay	2
	10	St.MultiTapDelay	2
	11	St.Modulation Dly	2
	12	St.Dynamic Delay	2
	13	Auto Panning Delay	2
Modulation&Pitch	14	Stereo Chorus	2
	15	Stereo Flanger	2
	16	Stereo Phaser	2
	17	Stereo Vibrato	2
	18	Stereo Tremolo	2
	19	St.Pitch Shifter	2
Dynamics&Filter	20	Stereo Compressor	2
	21	Stereo Expander	2
	22	Stereo Limiter	2
	23	Stereo Gate	2
	24	Stereo Filter	2
	25	Stereo Wah	2
	26	Multiband Limiter	4
SFX&etc	27	St.Analog Record	2
	28	Talking Modulator	2
	29	St.Ring Modulator	2
	30	Rotary Speaker	2

MONO TYPE

Category	No.	Name	Size
Reverb&Delay	31	Mono Reverb Hall	1
	32	Mono Reverb Plate	1
	33	Mono Reverb Room	1
	34	Mono ER	1
	35	Mono Delay	1
	36	Mn.Multitap Delay	1
Modulation&Pitch	37	Mono Chorus	1
	38	Mono Flanger	1
	39	Mono Phaser	1
	40	Mono Tremolo	1
	41	Mn.Pitch Shifter	1
Dynamics&Filter	42	Mono Compressor	1
	43	Mono Limiter	1
	44	Mono Expander	1
	45	Mono Gate	1
	46	Mono Filter	1
	47	Mono Wah	1
SFX&etc	48	AnalogRecord	1
	49	Mn.Ring Modulator	1
	50	Tube Pre Amp Sim	1
	51	Mic Simulator	2
Multi	52	GuitarMulti	8

Program list

STEREO TYPE

Category: Reverb&Delay 20

No.	Program Name	Algorithm No.	Name
1	Reverb Hall	1	Reverb Hall
2	Smooth Hall	2	Smooth Hall
3	Wet Plate Reverb	3	Reverb Wet Plate
4	Dry Plate Reverb	4	Reverb Dry Plate
5	Reverb Room	5	Reverb Room
6	Bright Room	6	Bright Room
7	Early Reflection	7	Early Reflection
8	ARENA	1	Reverb Hall
9	Cathedral	2	Smooth Hall
10	Dark Plate	3	Reverb Wet Plate
11	Bright Plate	4	Reverb Dry Plate
12	Club	4	Reverb Room
13	Listening Room	6	Bright Room
14	Garage	6	Bright Room
15	L/C/R Delay	8	L/C/R Delay
16	St/Cross Delay	9	Stereo/Cross Delay
17	St.MultiTapDelay	10	St.MultiTapDelay
18	St.Mod Delay	11	St.Modulation Dly
19	St.Dynamic Delay	12	St.Dynamic Delay
20	St.AutoPan Delay	13	Auto Panning Delay

Category: Modulation&Pitch 11

No.	Program Name	Algorithm No.	Name
21	Stereo Chorus	14	Stereo Chorus
22	High Band Chorus	14	Stereo Chorus
23	Stereo Flanger	15	Stereo Flanger
24	High Band Flange	15	Stereo Flanger
25	Stereo Phaser	16	Stereo Phaser
26	Analog Phaser	17	Stereo Phaser
27	Stereo Vibrato	17	Stereo Vibrato
28	Vibrato/Chorus	17	Stereo Vibrato
29	Stereo Tremolo	18	Stereo Tremolo
30	Vintage Tremolo	18	Stereo Tremolo
31	St.Pitchshifter	19	St.Pitch Shifter

Category: Dynamics&Filter 24

No.	Program Name	Algorithm No.	Name
32	StereoCompressor	20	Stereo Compressor
33	Stereo Expander	21	Stereo Expander
34	Stereo Limiter	22	Stereo Limiter
35	Stereo Gate	23	Stereo Gate
36	Stereo Filter	24	Stereo Filter
37	Stereo Wah	25	Stereo Wah
38	MultiBandLimiter	26	MultiBandLimiter
39	Studio Compressor	20	Stereo Compressor
40	Tube Compressor	20	Stereo Compressor
41	Mastering Comp	20	Stereo Compressor
42	Studio Limiter	22	Stereo Limiter
43	Analog Limiter	22	Stereo Limiter
44	Hard Limiter	22	Stereo Limiter

45	Master CD	26	MultiBandLimiter
46	Remaster L.A	26	MultiBandLimiter
47	Remaster Pop	26	MultiBandLimiter
48	Remaster Dance	26	MultiBandLimiter
49	Two Mix 60's	26	MultiBandLimiter
50	Two Mix 70's	26	MultiBandLimiter
51	Two Mix 80's	26	MultiBandLimiter
52	Two Mix Girl Pop	26	MultiBandLimiter
53	Two Mix Dance	26	MultiBandLimiter
54	Two Mix HipHop	26	MultiBandLimiter
55	Digital Rock	26	MultiBandLimiter

Category: SFX&etc 7

No.	Program Name	Algorithm No.	Name
56	St.Analog Record	27	St.Analog Record
57	TalkingModulator	28	Talking Modulator
58	St.RingModulator	29	St.Ring Modulator
59	Rotary Speaker	30	Rotary Speaker
60	Old Record	27	St.Analog Record
61	Talking Delay	28	Talking Modulator
62	Jet Ring	29	St.Ring Modulator

MONO TYPE

Category: Reverb&Delay 10

No.	Program Name	Algorithm No.	Name
63	Hall	31	Mono Reverb Hall
64	Plate	32	Mono Reverb Plate
65	Room	33	Mono Reverb Room
66	Small Hall	31	Mono Reverb Hall
67	Light Plate	32	Mono Reverb Plate
68	Studio Room	33	Mono Reverb Room
69	EarlyReflections	34	Mono ER
70	Delay	35	Mono Delay
71	Analog Delay	35	Mono Delay
72	3 Tap Delay	36	Mn.Multitap Delay

Category: Modulation&Pitch 10

No.	Program Name	Algorithm No.	Name
73	Chorus	37	Mono Chorus
74	Analog Chorus	37	Mono Chorus
75	Flanger	38	Mono Flanger
76	Bass Flanger	38	Mono Flanger
77	Phaser	39	Mono Phaser
78	Vintage Phaser	39	Mono Phaser
79	Tremolo	40	Mono Tremolo
80	Vintage Tremolo	40	Mono Tremolo
81	Pitchshifter	41	Mn.Pitch Shifter
82	Octave Voice	41	Mn.Pitch Shifter

Category: Dynamics&Filter 17

No.	Program Name	Algorithm No.	Name
83	Compressor	42	Mono Compressor
84	Limiter	43	Mono Limiter
85	Expander	44	Mono Expander
86	Gate	45	Mono Gate
87	Filter	46	Mono Filter
88	Wah	47	Mono Wah
89	Kick Compressor	42	Mono Compressor
90	SNR Compressor	42	Mono Compressor
91	Bass Compressor	42	Mono Compressor
92	Vocal Compressor	42	Mono Compressor
93	Vocal Limiter	43	Mono Limiter
94	TomTom Limiter	43	Mono Limiter
95	Cutting Expander	44	Mono Expander
96	SNR Expander	44	Mono Expander
97	Cymbal Gate	45	Mono Gate
98	Noise Gate	45	Mono Gate
99	Chemical Filter	46	Mono Filter

Category: SFX&etc 14

No.	Program Name	Algorithm No.	Name
100	Analog Record	48	Mn.Analog Record
101	Ring Modulator	49	Mn.Ring Modulator
102	Tube Mic PreAmp	50	Tube Pre Amp Sim
103	Old Mic PreAmp	50	Tube Pre Amp Sim
104	DriveTubePreAmp	50	Tube Pre Amp Sim
105	RadioTone	50	Tube Pre Amp Sim
106	Mic Simulator	51	Mic Simulator
107	Vintage Dyna Mic	51	Mic Simulator
108	Vintage Tube Mic	51	Mic Simulator
109	Studio Mic & Pre	51	Mic Simulator
110	Drums Dyna Mic	51	Mic Simulator
111	Percussion Mic	51	Mic Simulator
112	OverTop Mic	51	Mic Simulator
113	Bass Drum Mic	51	Mic Simulator

Category: Multi 15

No.	Program Name	Algorithm No.	Name
114	VOX AC15	52	GuitarMulti
115	VOX AC30	52	GuitarMulti
116	VOX AC30TB	52	GuitarMulti
117	BLACK 2X12	52	GuitarMulti
118	TWEED 1X12	52	GuitarMulti
119	TWEED 4X10	52	GuitarMulti
120	BOUTIQUE CLEAN	52	GuitarMulti
121	BOUTIQUE OD	52	GuitarMulti
122	UKBLUES	52	GuitarMulti
123	UK'70S	52	GuitarMulti
124	UK'80S	52	GuitarMulti
125	UK'90S	52	GuitarMulti
126	UK MODERN	52	GuitarMulti
127	US MODERN	52	GuitarMulti
128	US HIGAIN	52	GuitarMulti

About the effect algorithms

The effect algorithms can be broadly divided into mono and stereo types.
For an insert effect, you can select a program that uses either type of algorithm.
For a master effect and final effect, you cannot select programs that use a mono algorithm.

Example

Algorithm number: Algorithm name

Parameter name shown on screen (parameter name)	Range of parameter Explanation

8: St.Modulation Delay

R TimeR (Delay Time)	0...2.500sec
	Sets the delay time for the right channel
*LFO Speed	0.02...20.00Hz
	Sets the LFO speed

Parameters marked by an "*" in front of the screen parameter name can be controlled by an external device such as an expression pedal.

Stereo-type

Category	No.	Name	Size
Reverb&Delay	1	Reverb Hall	2
	2	Smooth Hall	2
	3	Reverb Wet Plate	2
	4	Reverb Dry Plate	2
	5	Reverb Room	2
	6	Bright Room	2
	7	Early Reflection	2
	8	L/C/R Delay	2
	9	Stereo/Cross Delay	2
	10	St.MultiTapDelay	2
	11	St.Modulation Dly	2
	12	St.Dynamic Delay	2
	13	Auto Panning Delay	2
Modulation&Pitch	14	Stereo Chorus	2
	15	Stereo Flanger	2
	16	Stereo Phaser	2
	17	Stereo Vibrato	2
	18	Stereo Tremolo	2
	19	St.Pitch Shifter	2
Dynamics&Filter	20	Stereo Compressor	2
	21	Stereo Expander	2
	22	Stereo Limiter	2
	23	Stereo Gate	2
	24	Stereo Filter	2
	25	Stereo Wah	2
	26	Multiband Limiter	4
SFX&etc	27	St.Analog Record	2
	28	Talking Modulator	2
	29	St.Ring Modulator	2
	30	Rotary Speaker	2

Category: Reverb&Delay
Reverb / delay-type effects

These effects simulate acoustic ambience such as the reverberation of a hall.

1: Reverb Hall

This hall-type reverb simulates the reverberation of mid-size concert halls or ensemble halls.

2: Smooth Hall

This hall-type reverb simulates the reverberation of larger halls and stadiums, and creates a smooth release.

3: Reverb Wet Plate

This plate reverb simulates warm (dense) reverberation.

4: Reverb Dry Plate

This plate reverb simulates dry (light) reverberation.

Rev Time (Reverb Time)	0.1...10.0sec
	Sets the reverberation time
HiDamp (High Damp)	53Hz...20.0kHz, THRU
	Sets the damping amount in the high range
PreDelay (Pre Delay)	0...200msec
	Sets the delay time from the dry sound
Dry:Wet	Dry, 1:99...99:1, Wet
	Sets the balance between the effect and dry sounds
EQ Trim	–15...+15dB
	Sets the equalizer trim level
LEQ Gain (Pre LEQ Gain)	–15...+15dB
	Sets the gain of Low EQ
HEQ Gain (Pre HEQ Gain)	–15...+15dB
	Sets the gain of High EQ
P.DlyThru (Pre Delay Thru)	0...100%
	Sets the mix ratio of non-delay sound

: Pre Delay [msec], : Pre Delay Thru [%]
The **"Pre Delay"** sets the delay time to the reverb input, allowing you to control spaciousness.
Using the **"Pre Delay Thru"** parameter, you can mix the dry sound without delay, emphasizing the attack of the sound.

5: Reverb Room

This room-type reverb emphasizes the early reflections that make the sound tighter. Changing the balance between the early reflections and reverb sound allows you to simulate nuances, such as the type of walls of a room.

6: Bright Room

This room-type reverb emphasizes the early reflections that make the sound brighter

Rev Time (Reverb Time)	0.1...3.0sec
	Sets the reverberation time
HiDamp (High Damp)	53Hz...20.0kHz, THRU
	Sets the damping amount in the high range
PreDelay (Pre Delay)	0...200msec
	Sets the delay time from the dry sound
Dry:Wet	Dry, 1:99...99:1, Wet
	Sets the balance between the effect and dry sounds

EQ Trim	–15...+15dB
	Sets the equalizer trim level
LEQ Gain (Pre LEQ Gain)	–15...+15dB
	Sets the gain of Low EQ
HEQ Gain (Pre HEQ Gain)	–15...+15dB
	Sets the gain of High EQ
P.DlyThru (Pre Delay Thru)	0...100%
	Sets the mix ratio of non-delay sound
Rev Level (Reverb Level)	0...100%
	Sets the reverberation level
ER Level	0...100%
	Sets the level of early reflections

: ER Level, : Reverb Level
These parameters set the early reflection level and reverb level. Changing these parameter values allows you to simulate the type of walls in the room. That is, a larger **"ER Level"** simulates a hard wall, and a larger **"Reverb Level"** simulates a soft wall.

7: Early Reflection

This effect is only the early reflection part of a reverberation sound, and adds presence to the sound. You can select one of the four decay curves.

Type	Sharp, Loose, Modulated, Reverse
	Selects the decay curve for the early reflection
ER Time	10...800msec
	Sets the time length of early reflection
Predly (Pre Delay)	0...200msec
	Sets the time taken from the original sound to the first early reflection
EQ Trim	–15...+15dB
	Sets the equalizer trim level
LEQ Gain (Pre LEQ Gain)	–15...+15dB
	Sets the gain of Low EQ
HEQ Gain (Pre HEQ Gain)	–15...+15dB
	Sets the gain of High EQ
Dry:Wet	Dry, 1:99...99:1, Wet
	Sets the balance between the effect and dry sounds

: Type
This parameter selects the decay curve for the early reflection.

8: L/C/R Delay

This multitap delay outputs three Tap signals to the left, right, and center respectively. You can also adjust the left and right spread of the delay sound.

L Time (L Delay Time)	0...2.730sec
	Sets the delay time of TapL
C Time (C Delay Time)	0...2.730sec
	Sets the delay time of TapC
R Time (R Delay Time)	0...2.730sec
	Sets the delay time of TapR
Dry:Wet	Dry, 1:99...99:1, Wet
	Sets the balance between the effect and dry sounds
L LevelL (Delay Level)	0...100%
	Sets the output level of TapL
C LevelC (Delay Level)	0...100%
	Sets the output level of TapC
R LevelR (Delay Level)	0...100%
	Sets the output level of TapR
Spread	0...100%
	Sets the width of the stereo image of the effect sound
Fdback (C) (Feedback (C Delay))	–100...+100%
	Sets the feedback amount of TapC
Fb.LoDamp (Feedback Low Damp)	THRU, 21Hz...8.00kHz
	Sets the damping amount in the low range
Fb.HiDamp (Feedback High Damp)	53Hz...20.0kHz, THRU
	Sets the damping amount in the high range
In Level (Input Level)	0...100%
	Sets the input level to the effect

: High Damp, : Low Damp
These parameters set the damping amount of high range and low range. The tone of the delayed sound becomes darker and lighter as it feeds back.

: Spread
This parameter sets the pan width of the effect sound. The stereo image is widest with a value of "50," and the effect sound of both channels is output from the center with a value of "0."

9: Stereo/Cross Delay

This is a stereo delay, and can by used as a cross-feedback delay effect in which the delay sounds cross over between the left and right by changing the feedback routing.

L Time (L Delay Time)	0...2.730sec
	Sets the left delay time
R Time (R Delay Time)	0...2.730sec
	Sets the right delay time
Type (Stereo/Cross)	Stereo, Cross
	Switches between stereo delay and cross-feedback delay
Dry:Wet	Dry, 1:99...99:1, Wet
	Sets the balance between the effect and dry sounds
L Fdback (L Feedback)	–100...+100%
	Sets the feedback amount for the left channel
R Fdback (R Feedback)	–100...+100%
	Sets the feedback amount for the right channel
LoDamp (Low Damp)	THRU, 21Hz...8.00kHz
	Sets the damping amount in the low range
HiDamp (High Damp)	53Hz...20.0kHz, THRU
	Sets the damping amount in the high range
Spread	0...100%
	Sets the width of the stereo image of the effect sound
In Level (Input Level)	0...100%
	Sets the input level to the effect

10: St. Multitap Delay (Stereo Multitap Delay)

The left and right Multitap Delays have two taps respectively. Changing the routing of feedback and tap output allows you to create various patterns of complex effect sounds.

Tap1Time	0...2.730sec
	Sets the delay time of Tap1
Tap2Time	0...2.730sec
	Sets the delay time of Tap2
Type	Normal, CrossFdback, CrossPan1, CrossPan2
	Switches the left and right delay routing
Dry:Wet	Dry, 1:99...99:1, Wet
	Sets the balance between the effect and dry sounds
Tap1Level	0...100%
	Sets the output level of Tap1
Tap2Level	0...100%
	Sets the output level of Tap2
T1.Fdback (Tap1 Feedback)	–100...+100%
	Sets the Tap1 feedback amount
Spread	0...100%
	Sets the width of the stereo image of the effect sound

LoDamp (Low Damp)	THRU, 21Hz...8.00kHz
Sets the damping amount in the low range	
HiDamp (High Damp)	53Hz...20.0kHz, THRU
Sets the damping amount in the high range	
In Level (Input Level)	0...100%
Sets the input level to the effect	

: Type
The left / right panning of the delay can be modified by changing the connections of the left and right delay. Be aware that different sounds must be input to the left and right channels in order for this parameter to be effective.

11: St.Modulation Dly (Stereo Modulation Delay)

This stereo delay uses an LFO to sweep the delay time. The pitch also varies. You will obtain a delay sound with swell and shimmering. You can also control the delay time using a modulation source.

L Time (L Delay Time)	0...2.500sec
Sets the left delay time	
R Time (R Delay Time)	0...2.500sec
Sets the right delay time	
*LFO Speed	0.02...20.00Hz
Sets the LFO speed	
Dry:Wet	Dry, 1:99...99:1, Wet
Sets the balance between the effect and dry sounds	
*L Depth	0...200
Sets the depth of the left LFO modulation	
*R Depth	0...200
Sets the depth of the right LFO modulation	
LFO Wave (LFO Waveform)	Triangle, Sine
Selects LFO Waveform	
LFO Shape	–100...+100%
Determines how much the LFO waveform is changed	
L Fdback (L Feedback)	–100...+100%
Sets the feedback amount of left delay	
R Fdback (R Feedback)	–100...+100%
Sets the feedback amount of right delay	
L Phase (L LFO Phase)	–180...+180deg
Sets the phase obtained when the left LFO is reset	
R Phase (R LFO Phase)	–180...+180deg
Sets the phase obtained when the right LFO is reset	

: L LFO Phase [degree], : R LFO Phase [degree]
"L LFO Phase" and **"R LFO Phase"** specify the phase difference between the two LFO's when they are reset. This allows the pitch change of the sweep to be set independently for left and right.

12: St.Dynamic Delay (Stereo Dynamic Delay)

This stereo delay controls the level of delay according to the input signal level. You can use this as a ducking delay that applies delay to the sound only when you input signals at a high velocity or only when the volume level is low.

L Time (L Delay Time)	0...2.730sec
Sets the left delay time	
R Time (R Delay Time)	0...2.730sec
Sets the right delay time	
Feedback	–100...+100%
Sets the feedback amount	
Dry:Wet	Dry, 1:99...99:1, Wet
Sets the balance between the effect and dry sounds	
Threshold	0...100
Adjusts the level at which compression	
Attack	0...1.00sec
Sets the attack time of level control	
Release	0...10.0sec
Sets the release time of level control	
Offset	0...100%
Sets the offset of level control	
Control (Control Target)	None, WetLevel, Feedback
Selects from no control, output, and feedback	
LoDamp (Low Damp)	THRU, 21Hz...8.00kHz
Sets the damping amount in the low range	
HiDamp (High Damp)	53Hz...20.0kHz, THRU
Sets the damping amount in the high range	
Spread	0...100%
Sets the width of the stereo image of the effect sound	
Polarity	[+]Plus, [–]Minus
Reverses level control	

: Control Target
This parameter selects no level control, delay output control (effect balance), or feedback amount control.

: Polarity, : Threshold, : Offset, : Attack, : Release
The **"Offset"** parameter specifies the value for the **"Control Target"** parameter (when level control is not being applied), expressed as a ratio relative to the parameter setting.
If **"Polarity"** is set to **[+] Plus**, **"Control Target"** will be the value of the parameter multiplied by the **"Offset"** when the input signal is lower than the **"Threshold,"** or will be the value of the parameter when the input signal is above the **"Threshold."**
If **"Polarity"** is set to **[–] Minus**, **"Control Target"** will be the value of the parameter when the input signal is lower than the **"Threshold,"** or will be the value of the parameter multiplied by the **"Offset"** when the input signal is above the **"Threshold."**
The **"Attack"** and **"Release"** parameters specify attack time and release time of delay level control.

13: Auto Panning Delay

This stereo delay effect pans the delay sound left and right using the LFO.

L Time (L Delay Time)	0...2.730sec
Sets the left delay time	
R Time (R Delay Time)	0...2.730sec
Sets the right delay time	
*Speed (Panning Speed)	0.02...20.00Hz
Sets the panning speed	
Dry:Wet	Dry, 1:99...99:1, Wet
Sets the balance between the effect and dry sounds	
L Fdback (L Feedback)	–100...+100%
Sets the feedback amount for the left channel	
R Fdback (R Feedback)	–100...+100%
Sets the feedback amount for the right channel	
*Depth (Panning Depth)	0...100
Sets the panning width	
L-R Phase (LFO L-R Phase)	–180...+180deg
Sets the LFO phase difference between the left and right	
LoDamp (Low Damp)	THRU, 21Hz...8.00kHz
Sets the damping amount in the low range	
HiDamp (High Damp)	53Hz...20.0kHz, THRU
Sets the damping amount in the high range	
Waveform (LFO Waveform)	Triangle, Sine
Selects LFO Waveform	
LFO Shape	–100...+100%
Determines how much the LFO waveform is changed	

Category: Modulation&Pitch
Modulation / Pitch-type effects

14: Stereo Chorus

This effect adds thickness and warmth to the sound by modulating the delay time of the input signal. You can control the spaciousness of the sound by offsetting the phase of the left and right LFOs from each other.

*Speed (LFO Speed)	0.02...20.00Hz
	Sets the LFO speed
*Depth	0...100
	Sets the depth of LFO modulation
L-R Phase (LFO L-R Phase)	–180...+180deg
	Sets the LFO phase difference between the left and right
Dry:Wet	Dry, 1:99...99:1, Wet
	Sets the balance between the effect and dry sounds
L PreDly (L Pre Delay)	0.0...50.0msec
	Sets the left delay time
R PreDly (R Pre Delay)	0.0...50.0msec
	Sets the right delay time
Waveform (LFO Waveform)	Triangle, Sine
	Selects LFO Waveform
Spread	0...100%
	Sets the width of the stereo image of the effect sound
LoDamp (Low Damp)	THRU, 21Hz...8.00kHz
	Sets the damping amount in the low range
HiDamp (High Damp)	53Hz...20.0kHz, THRU
	Sets the damping amount in the high range

: L Pre Delay [msec], : R Pre Delay [msec]
Setting the left and right delay time individually allows you to control the stereo image.

15: Stereo Flanger

This effect gives a significant swell and movement of pitch to the sound. It is more effective when applied to a sound with a lot of harmonics. This is a stereo flanger. You can add spread to the sound by offsetting the phase of the left and right LFOs from each other.

*Speed (LFO Speed)	0.02...20.00Hz
	Sets the LFO speed
*Depth	0...100
	Sets the depth of LFO modulation
Fdback (Feedback)	–100...+100%
	Sets the feedback amount
Dry:Wet	Dry, 1:99...99:1, Wet
	Sets the balance between the effect and dry sounds
Waveform (LFO Waveform)	Triangle, Sine
	Selects LFO Waveform
LFO Shape (LFO Shape)	–100...+100%
	Determines how much the LFO waveform is changed
Fb HiCut (Feedback High Cut)	53Hz...20.0kHz, THRU
	Sets the feedback damping amount in the high range
L-R Phase (LFO L-R Phase)	–180...+180deg
	Sets the LFO phase difference between the left and right
Delay	0...50.0ms
	Sets the left / right delay time
LoDamp (Low Damp)	THRU, 21Hz...8.00kHz
	Sets the damping amount in the low range
HiDamp (High Damp)	53Hz...20.0kHz, THRU
	Sets the damping amount in the high range

: LFO Shape
Changing the LFO waveform shape controls the peak sweep of flanging effects.

: Feedback, : Dry:Wet
The peak shape of the positive and negative **"Feedback"** value is different. The harmonics will be emphasized when the effect sound is mixed with the dry sound if you set a positive value for both **"Feedback"** and **"Dry:Wet"**, and if you set a negative value for both **"Feedback"** and **"Dry:Wet"**.

: Feedback High Cut
This parameter sets the amount of damping of the feedback in the high range. Increasing the value will cut high-range harmonics.

16: Stereo Phaser

This effect creates a swell by shifting the phase. It is very effective on electric piano sounds. This is a stereo effect, and you can control the spaciousness of the sound by offsetting the phase of the left and right LFOs from each other.

*Speed (LFO Speed)	0.02...20.00Hz
	Sets the LFO speed
Depth	0...100
	Sets the depth of LFO modulation
Resonance	–100...+100%
	Sets the resonance amount
Dry:Wet	Dry, 1:99...99:1, Wet
	Sets the balance between the effect and dry sounds
Manual	0...100
	Sets the frequency to which the effect is applied
LFO Shape	–100...+100
	Determines how much the LFO waveform is changed
Reso HiCut (Resonance High Cut)	53Hz...20.0kHz, THRU
	Sets the resonance damping amount in the high range
L-R Phase (LFO L-R Phase)	–180...+180deg
	Sets the LFO phase difference between the left and right
Waveform (LFO Waveform)	Triangle, Sine
	Selects LFO Waveform
Type	Blue, U-VB
	Selects the type of phaser

: Resonance, : Dry:Wet
The peak shape of the positive and negative Feedback value is different. The harmonics will be emphasized when the effect sound is mixed with the dry sound, if you set a positive value for both **"Resonance"** and **"Dry:Wet"**, and if you set a negative value for both **"Resonance"** and **"Dry:Wet"**.

: Resonance High Cut
This parameter sets the amount of damping of the resonance in the high range. Increasing the value will cut high-range harmonics.

17: Stereo Vibrato

This effect cyclically varies the pitch of the input signal. You can use an envelope to control the width of the modulation.

*Speed (LFO Speed)	0.02...20.00Hz
	Sets the LFO speed
Depth	0...100
	Sets the depth of LFO modulation
Env.Control (Envelope Control)	0...100%
Sets the amount of depth that will be controlled by the envelope	
Dry:Wet	Dry, 1:99...99:1, Wet
	Sets the balance between the effect and dry sounds
Thresold	–48.0...0.0dB
Sets the level at which the envelope control effect will be applied	
Attack	0...1.00sec
	Sets the attack time for level control

Release	0...10.0sec
Sets the release time for level control	
L-R Phase (LFO L-R Phase)	–180...+180deg
Sets the LFO phase difference between the left and right	
Waveform (LFO Waveform)	Triangle, Sine
Selects LFO Waveform	
LFO Shape	–100...+100%
Determines how much the LFO waveform is changed	

18: Stereo Tremolo

This effect modulates the volume level of the input signal. The effect is stereo, and offsetting the LFO of the left and right phases from each other produces a tremolo effect between left and right.

*Speed (LFO Speed)	0.02...20.00Hz
Sets the LFO speed	
*Depth	0...100
Sets the depth of LFO modulation	
Waveform (LFO Waveform)	
Triangle, Sine, Square, Saw up, Saw down	
Selects LFO Waveform	
Dry:Wet	Dry, 1:99...99:1, Wet
Sets the balance between the effect and dry sounds	
LFO Shape	–100...+100%
Determines how much the LFO waveform is changed	
L-R Phase (LFO L-R Phase)	–180...+180deg
Sets the LFO phase difference between the left and right	

: LFO Waveform
This parameter selects the LFO waveform.

: LFO Phase
This parameter determines the difference between the left and right LFO phases. A higher value will simulate the auto-pan effect in which the sound is panned between left and right.

19: St.Pitch Shifter (Stereo Pitch Shifter)

This is a stereo pitch shifter.

PitchShift	–24...+24/2tone
Sets the pitch shift amount in steps of a semitone	
Fine	–100...+100cent
Sets the pitch shift amount in steps of one cent	
Lo/Hi Cut (Low/High Cut)	Lo:–50%..., Flat, ...Hi:–50%
Sets the damping amount in the low / high range	
Dry:Wet	Dry, 1:99...99:1, Wet
Sets the balance between the effect and dry sounds	
Feedback	–100...+100%
Sets the feedback amount	
L Time (L Delay Time)	0...1.360sec
Sets the left delay time	
R Time (R Delay Time)	0...1.360sec
Sets the right delay time	
Fb.Position (Feedback Position)	Pre (Pitch), Post (Dly)
Switches the feedback connection	
In Level (Input Level)	0...100%
Sets the input level to the effect	
Spread	–100...100%
Sets the width of the stereo image of the effect sound	

: Feedback Position, : Feedback
If **"Feedback Position"** is set to Pre (Pitch), the output of the pitch shifter will be fed back into the input of the pitch shifter; this means that by raising the **"Feedback"** value you can create an effect in which the pitch of the feedback continues to rise (or fall) each time the feedback delay is repeated.

If **"Feedback Position"** is set to **Post (Dly)**, the sound that is fed back will not be sent through the pitch shifter again; this means that if you raise the **"Feedback"** value, the pitch-shifted sound will repeat at that same pitch.

Category: Dynamics&Filter
Dynamics / Filter-type effects

20: Stereo Compressor

This effect compresses the input signal to regulate the level and give a "punchy" effect. This is a stereo compressor. You can link left and right channels, or use each channel separately.

Threshold	–30.0...0.0dB
Sets the level at which compression begins to apply	
Ratio	1.00:1...20.0:1
Sets the compression ration of the signal	
Attack	0...1.00sec
Sets the attack time	
Release	0...10.0sec
Sets the release time	
Env.Select (Envelope Select)	L/R Mix, L/R Indiv
Switches the left / right channels between linked or independent operation	
Response	Slow, Medium, Fast
Selects the response speed	
Tube Sat (Tube Saturation)	0...100
Sets the depth of vacuum tube distortion	
Out Gain (Output Gain)	–24.0...+24.0dB
Adjusts the output level gain	

: Envelope Select
This parameter selects whether the left and right channels are linked to control both signals simultaneously, or whether each channel is controlled independently.

: Response
Adjusts the response speed at which the envelope is detected. Select the setting that is appropriate for the input material; choose **Fast** for brief sounds like percussion instruments, **Medium** for vocals, or **Slow** for long-sustaining sounds.

21: Stereo Expander

This effect attenuates input signals that are below a specified level, adding punch to the sound and improving the S / N ratio by reducing the level between performances.

Threshold	–48.0...0.0dB
Sets the level at which compression begins to apply	
Ratio	1.00:1...20.0:1
Sets the compression ration of the signal	
Attack	0...1.00sec
Sets the attack time	
Release	0...10.0sec
Sets the release time	
Env.Select (Envelope Select)	L/R Mix, L/R Indiv
Switches the left / right channels between linked or independent operation	
Response	Slow, Medium, Fast
Selects the response speed	
Out Gain (Output Gain)	–24.0...+24.0dB
Adjusts the output level gain	

22: Stereo Limiter

This effect applies the Limiter to the low range, mid range, and high range of the input signal. You can control dynamics for each range to adjust the sound pressure of the low range, mid range, and high range in a different way from the EQ.

Threshold	–48.0...0.0dB
Sets the level at which compression begins to apply	
Attack	0...1.00sec
Sets the attack time	
Release	0...10.0sec
Sets the release time	
Out Gain (Output Gain)	–24.0...+24.0dB
Adjusts the output level gain	
Env.Select (Envelope Select)	L/R Mix, L/R Indiv
Switches the left / right channels between linked or independent operation	
Response	Slow, Medium, Fast
Selects the response speed	
Tube Sat (Tube Saturation)	0...100
Sets the depth of vacuum tube distortion	

23: Stereo Gate

This effect lowers the level of input signals that are below a specified level.

Threshold	–48.0...0.0dB
Sets the level at which compression	
Attack	0...1.00sec
Sets the attack time	
Release	0...10.0sec
Sets the release time	
Range	–inf, –48...0.0dB
Compression level	
Env.Select (Envelope Select)	L/R Mix, L/R Indiv
Switches the left / right channels between linked or independent operation	
Response	Slow, Medium, Fast
Selects the response speed	
PreDelay (Pre Delay Time)	0...200ms
Sets the delay time	
Out Gain (Output Gain)	–24.0...+24.0dB
Adjusts the output level gain	

: Pre Delay Time

This parameter sets the delay time of the Gate input. If the sound has a very fast attack, increase the delay time so that the signal will be input after the Gate is opened.

24: Stereo Filter

This is a filter with frequency control. It can be controlled by a envelope or LFO.

Fc Bottom (Control Fc Bottom)	53Hz...20.0kHz
Sets the lower limit of the frequency to be controlled	
Fc Top (Control Fc Top)	53Hz...20.0kHz
Sets the upper limit of the frequency to be controlled	
Resonance	0...100%
Sets the resonance amount	
Trim	0...100%
Adjusts the filter level	
FilterType	HPF, BPF, LPF
Selects the filter type	
Control (Control Source)	Envelope, LFO
Switches the control source	
Polarity	[+]Plus, [–]Minus
Inverts the control	
Dry:Wet	Dry, 1:99...99:1, Wet
Sets the balance between the effect and dry sounds	
Waveform (LFO Waveform)	Triangle, Sine, Saw
Selects LFO Waveform	
*LFO Speed	0.02...20.00Hz
Sets the LFO speed	
LFO Step	0...256
Selects the LFO step	
L-R Phase (LFO L-R Phase)	–180...+180deg
Sets the LFO phase difference between the left and right	
Env.Select (Envelope Select)	L/R Mix, L/R Indiv
Links or un-links the left / right channels for envelope control	
Env.Resp (Envelope Response)	Slow, Medium, Fast
Selects the response speed of envelope control	
Env.Sens (Envelope Sensitivity)	0...100%
Sets the sensitivity of envelope control	

25: Stereo Wah

This is a wah effect that can be controlled by an envelope or LFO.

Control (Control Source)	Envelope, LFO, Manual
Switches the control source	
Env.Select (Envelope Select)	L/R Mix, L/R Indiv
Links or un-links the left / right channels for envelope control	
Env.Resp (Envelope Response)	Slow, Medium, Fast
Selects the response speed of envelope control	
Env.Sens (Envelope Sensitivity)	0...100%
Sets the sensitivity of envelope control	
Waveform (LFO Waveform)	Triangle, Sine, Saw
Selects LFO Waveform	
*LFO Speed	0.02...20.00Hz
Sets the LFO speed	
LFO Step	0...256
Selects the LFO step	
LFO Phase (LFO L-R Phase)	–180...+180deg
Sets the LFO phase difference between the left and right	
Wah.Type (Wah Type)	
Y-CRY, RM-A, RM-B, J-CRY, VOX, M-VOX	
Selects the wah type	
*Manual (Manual Control)	0...100
Sets the control position manually	
DirectMix (Direct Mix Level)	0...100%
Adjusts the mix level of the direct sound	
Wah Level	0...100
Sets the wah level	

:Manual

By selecting **Manual** as the Control Source, you can create the effect of an actual wah pedal left in a fixed position.
Alternatively, if you assign an expression pedal to control Manual, you can operate the expression pedal to control the sound just like an actual wah pedal.

26: Multiband Limiter

This is a stereo multi-band limiter. It is ideal for mastering.

Hi.Thresh (High Band Threshold)	–48.0...0.0dB
Adjusts the level at which compression begins for the high-frequency range	
Hi.Attack (High Band Attack)	0...1.00sec
Adjusts the attack time for the high-frequency range	
Hi.Release (High Band Release)	0...10.0sec
Adjusts the release time for the high-frequency range	
Hi.OutGain (High Band Output Gain)	–24.0...+24.0dB
Adjusts the output gain for the high-frequency range	
Md.Thresh (Middle Band Threshold)	–48.0...0.0dB
Adjusts the level at which compression begins for the mid-frequency range	
Md.Attack (Middle Band Attack)	0...1.00sec
Adjusts the attack time for the mid-frequency range	
Md.Release (Middle Band Release)	0...10.0sec
Adjusts the release time for the mid-frequency range	
Md.OutGain (Middle Band Output Gain)	–24.0...+24.0dB
Adjusts the output gain for the mid-frequency range	
Lo.Thresh (Low Band Threshold)	–48.0...0.0dB
Adjusts the level at which compression begins for the low-frequency range	
Lo.Attack (Low Band Attack)	0...1.00sec
Adjusts the attack time for the low-frequency range	
Lo.Release (Low Band Release)	0...10.0sec
Adjusts the release time for the low-frequency range	
Lo.OutGain (Low Band Output Gain)	–24.0...+24.0dB
Adjusts the output gain for the low-frequency range	
Mon.Band (Monitor Band)	Off, Low, Middle, High
Selects the band to monitor	
Lo.Xover (Low Cross over Frequency)	53Hz...1.00kHz
Sets the frequency of the crossover between the low and mid-frequency bands	
Hi.Xover (High Cross over Frequency)	1.10kHz...16.0kHz
Sets the frequency of the crossover between the mid and high-frequency bands	
Saturation (Tube Saturation)	0...100%
Sets the depth of vacuum tube distortion	

Category: SFX&etc
SFX / Etc effects

27: St.Analog Record (Stereo Analog Record)

RPM	33 1/3, 45, 78
Sets the r.p.m. of a record	
Wah (Wah Flutter)	0...100%
Sets the depth by which the record is warped	
Bend	0...100%
Sets the width by which the record is warped	
Dry:Wet	Dry, 1:99...99:1, Wet
Sets the balance between the effect and dry sounds	
ClickLevel (Click Noise Level)	0...100%
Sets the level of click noise	
ClickAngle	0...100
Sets the angle of the scratch on the surface of the record	
LoDamp (Low Damp)	THRU, 21Hz...8.00kHz
Sets the damping amount in the low range	
HiDamp (High Damp)	53Hz...20.0kHz, THRU
Sets the damping amount in the high range	
ClickPoint	0...100
Sets the distance of the scratch from the warped area	
WhiteLevel (White Noise Level)	0...100%
Sets the level of white noise	
NoiseLoCut (Noise Low Cut)	THRU, 21Hz...8.00kHz
Sets the low-cut frequency for the noise	
NoiseHiCut (Noise High Cut)	53Hz...20.0kHz, THRU
Sets the high-cut frequency for the noise	
Vinyl Level (Vinyl Noise Level)	0...100%
Sets the level of noise produced by the needle scraping the vinyl	
Vinyl Type (Vinyl Noise Type)	0...3
Selects the type of vinyl noise	

ClickAngle:
This sets the angle of the scratch. The spacing of the click noise for one revolution will depend on the angle.

Vinyl Noise Type:
The Vinyl Noise will also depend on the amount by which the record is warped.

28: Talking Modulator

This effect gives the input signal a character similar to a human voice. It can create the impression of a talking guitar or synthesizer

V.Bottom (Voice Bottom)	[A], [E], [I], [O], [U]
Selects a vowel sound at the bottom end of control	
V.Centr (Voice Center)	[A], [E], [I], [O], [U]
Selects a vowel sound in the center of control	
V.Top (Voice Top)	[A], [E], [I], [O], [U]
Selects a vowel sound at the top end of control	
Drive (Drive Gain)	0.0...+36dB
Sets the amount of gain for the distortion	
Control (Control Source)	Envelope, LFO, Manual
Switches the control source	
*LFO Speed	0.02...20.00Hz
Sets the LFO speed	
Env.Resp (Envelope Response)	Slow, Medium, Fast
Selects the response speed of envelope control	
Env.Sens (Envelope Sensitivity)	0...100%
Sets the sensitivity of envelope control	
L Delay (L Delay Time)	0...2.730sec
Sets the left delay time	
R Delay (R Delay Time)	0...2.730sec
Sets the right delay time	
*Manual (Manual Control)	0...100
Sets the control position manually	
Dry:Wet	Dry, 1:99...99:1, Wet
Sets the balance between the effect and dry sounds	
Wet Trim (Wet Level Trim)	0...100
Sets the effect level trim	

29: St.Ring Modulator (Stereo Ring Modulator)

This effect creates a metallic sound by applying the oscillators to the input signal.

Oscillator (Oscillator Frequency)	0...12.00kHz
Sets the oscillator frequency	
*LFO Speed	0.02...20.00Hz
Sets the LFO speed of the oscillator frequency modulation	
*LFO Depth	0...100%
Sets the depth of LFO modulation for the oscillator frequency	

L-R Phase (LFO L-R Phase)	–180...+180deg
Sets the LFO phase difference between the left and right	
L Delay (L Delay Time)	0...2.730sec
Sets the left delay time	
R Delay (R Delay Time)	0...2.730sec
Sets the right delay time	
HiDamp (High Damp)	53Hz...20.0kHz, THRU
Sets the damping amount in the high range	
L Fdback (L Feedback)	–100...+100%
Sets the feedback amount for the left channel	
R Fdback (R Feedback)	–100...+100%
Sets the feedback amount for the right channel	
Dry:Wet	Dry, 1:99...99:1, Wet
Sets the balance between the effect and dry sounds	
In Level (Input Level)	0...100%
Sets the input level to the effect	

: Oscillator Frequency [Hz]
This parameter sets the oscillator frequency.

30: Rotary Speaker

This effect simulates a rotary speaker, and obtains a more realistic sound by simulating the rotor in the low range and the horn in the high range separately. The effect also simulates the stereo microphone settings.

Speed Sw (Speed Switch)	Slow, Fast
Switches the speaker rotation speed between slow and fast	
HornRatio (Horn Ratio)	Stop, 0.50...2.00
Adjusts the (high-range side) horn rotation speed. Standard value is 1.00. Selecting "Stop" will stop the rotation	
RotorRatio (Rotor Ratio)	Stop, 0.50...2.00
Adjusts the (low-range side) rotor rotation speed. Standard value is 1.00. Selecting "Stop" will stop the rotation	
Rotor:Horn (Horn:Rotor Balance)	Rotor, 1:99...99:1, Horn
Sets the level balance between the high-range horn and low-range rotor	
Rotate Sw (Rotate Switch)	Rotate, Stop
Switches between speaker rotation and stop	
HrnAccel (Horn Acceleration)	0...100
How quickly the horn rotation speed in the high range is switched	
RtrAccel (Rotor Acceleration)	0...100
Determines how quickly the rotor rotation speed in the low range is switched	
MicDistance	0...100
Sets the distance between the microphone and rotary speaker	
MicSpread	0...100%
Sets the angle of left and right microphones	
Dry:Wet	Dry, 1:99...99:1, Wet
Sets the balance between the effect and dry sounds	

: Horn Acceleration, : Rotor Acceleration
On a real rotary speaker, the rotation speed is accelerated or decelerated gradually after you switch the speed. The **"Horn Acceleration"** parameter sets the speed at which the rotation is accelerated or decelerated.

: MicDistance, : MicSpread
This is a simulation of stereo microphone settings.

Monaural-type

Category	No.	Name	Size
Reverb&Delay	31	Mono Reverb Hall	1
	32	Mono Reverb Plate	1
	33	Mono Reverb Room	1
	34	Mono ER	1
	35	Mono Delay	1
	36	Mn.Multitap Delay	1
Modulation&Pitch	37	Mono Chorus	1
	38	Mono Flanger	1
	39	Mono Phaser	1
	40	Mono Tremolo	1
	41	Mn.Pitch Shifter	1
Dynamics&Filter	42	Mono Compressor	1
	43	Mono Limiter	1
	44	Mono Expander	1
	45	Mono Gate	1
	46	Mono Filter	1
	47	Mono Wah	1
SFX&etc	48	AnalogRecord	1
	49	Mn.Ring Modulator	1
	50	Tube Pre Amp Sim	1
	51	Mic Simulator	2
Multi	52	GuitarMulti	8

Category: Reverb&Delay
Reverb / delay-type effects

31: Mono Reverb Hall

32: Mono Reverb Plate

Rev Time (Reverb Time)	0.1...10.0sec
Sets the reverberation time	
LoDamp (Low Damp)	THRU, 21Hz...8.00kHz
Sets the damping amount in the low range	
HiDamp (High Damp)	53Hz...20.0kHz, THRU
Sets the damping amount in the high range	
Dry:Wet	Dry, 1:99...99:1, Wet
Sets the balance between the effect and dry sounds	
SideRflct (Side Reflection)	0...100%
Sets the amount of reflections from the side walls	
BackRflct (Back Reflection)	0...100%
Sets the amount of reflection from the back wall	

33: Mono Reverb Room

Rev Time (Reverb Time)	0.1...3.0sec
Sets the reverberation time	
LoDamp (Low Damp)	THRU, 21Hz...8.00kHz
Sets the damping amount in the low range	
HiDamp (High Damp)	53Hz...20.0kHz, THRU
Sets the damping amount in the high range	
Dry:Wet	Dry, 1:99...99:1, Wet
Sets the balance between the effect and dry sounds	
SideRflct (Side Reflection)	0...100%
Sets the amount of reflections from the side walls	
BackRflct (Back Reflection)	0...100%
Sets the amount of reflection from the back wall	

34: Mono ER

Type	Sharp, Loose, Modulated, Reverse
	Selects the decay curve for the early reflection
ER Time	10...800msec
	Sets the time length of early reflection
Predly (Pre Delay)	0...200msec
	Sets the time taken from the original sound to the first early reflection
Dry:Wet	Dry, 1:99...99:1, Wet
	Sets the balance between the effect and dry sounds
LoDamp (Low Damp)	THRU, 21Hz...8.00kHz
	Sets the damping amount in the low range
HiDamp (High Damp)	53Hz...20.0kHz, THRU
	Sets the damping amount in the high range

35: Mono Delay

Time (Delay Time)	0...2.730sec
	Sets the delay time
Feedback (Feedback)	–100...+100%
	Sets the feedback amount
In Level (Input Level)	0...100%
	Sets the input level to the effect
Dry:Wet	Dry, 1:99...99:1, Wet
	Sets the balance between the effect and dry sounds
LoDamp (Low Damp)	THRU, 21Hz...8.00kHz
	Sets the damping amount in the low range
HiDamp (High Damp)	53Hz...20.0kHz, THRU
	Sets the damping amount in the high range
Analog (Analog Saturation)	0...100%
	Sets the amount of analog distortion

36: Mn.Multitap Delay (Mono Multitap Delay)

Tap1Time	0...2.730sec
	Sets the delay time of Tap1
Tap2Time	0...2.730sec
	Sets the delay time of Tap2
Tap3Time	0...2.730sec
	Sets the delay time of Tap3
WetLevel	0...100%
	Sets the level of the effect sound
Tap1Level	0...100%
	Sets the output level of Tap1
Tap2Level	0...100%
	Sets the output level of Tap2
Tap3Level	0...100%
	Sets the output level of Tap3
DryLevel	0...100%
	Sets the level of the direct sound
LoDamp (Low Damp)	THRU, 21Hz...8.00kHz
	Sets the damping amount in the low range
HiDamp (High Damp)	53Hz...20.0kHz, THRU
	Sets the damping amount in the high range

Category: Modulation&Pitch
Modulation / Pitch-type effects

37: Mono Chorus

*Speed (LFO Speed)	0.02...20.00Hz
	Sets the LFO speed
*Depth	0...100
	Sets the depth of LFO modulation
PreDly (Pre Delay)	0.0...50.0msec
	Sets the delay time
Dry:Wet	Dry, 1:99...99:1, Wet
	Sets the balance between the effect and dry sounds
Waveform (LFO Waveform)	Triangle, Sine
	Selects LFO Waveform
LoDamp (Low Damp)	THRU, 21Hz...8.00kHz
	Sets the damping amount in the low range
HiDamp (High Damp)	53Hz...20.0kHz, THRU
	Sets the damping amount in the high range
Waveform (LFO Waveform)	Triangle, Sine
	Selects LFO Waveform
Analog (Analog Saturation)	0...100%
	Sets the amount of analog distortion

38: Mono Flanger

*Speed (LFO Speed)	0.02...20.00Hz
	Sets the LFO speed
*Depth	0...100
	Sets the depth of LFO modulation
Feedback	–100...+100%
	Sets the feedback amount
Dry:Wet	Dry, 1:99...99:1, Wet
	Sets the balance between the effect and dry sounds
Waveform (LFO Waveform)	Triangle, Sine
	Selects LFO Waveform
LFO Shape	–100...+100%
	Determines how much the LFO waveform is changed
Fb HiCut (Feedback High Cut)	53Hz...20.0kHz, THRU
	Sets the damping amount in the high range
Delay	0...50.0ms
	Sets the left / right delay time
LoDamp (Low Damp)	THRU, 21Hz...8.00kHz
	Sets the damping amount in the low range
HiDamp (High Damp)	53Hz...20.0kHz, THRU
	Sets the damping amount in the high range

39: Mono Phaser

*Speed (LFO Speed)	0.02...20.00Hz
	Sets the LFO speed
Depth	0...100
	Sets the depth of LFO modulation
Resonance	–100...+100%
	Sets the resonance amount
Dry:Wet	Dry, 1:99...99:1, Wet
	Sets the balance between the effect and dry sounds
Manual	0...100
	Sets the frequency to which the effect is applied
LFO Shape	–100...+100
	Determines how much the LFO waveform is changed

Reso HiCut (Resonance High Cut)	53Hz...20.0kHz, THRU
Sets the resonance damping amount in the high range	
Type	Blue, U-VB
Selects the type of phaser	
Waveform (LFO Waveform)	Triangle, Sine
Selects LFO Waveform	

40: Mono Tremolo

*Speed (LFO Speed)	0.02...20.00Hz
Sets the LFO speed	
*Depth	0...100
Sets the depth of LFO modulation	
Waveform (LFO Waveform)	
Triangle, Sine, Square, Saw up, Saw down	
Selects LFO Waveform	
Dry:Wet	Dry, 1:99...99:1, Wet
Sets the balance between the effect and dry sounds	
LFO Shape	–100...+100%
Determines how much the LFO waveform is changed	

41: Mn.Pitch Shifter (Mono Pitch Shifter)

PitchShift	–24...+24/2tone
Sets the pitch shift amount in steps of a semitone	
Fine	–100...+100cent
Sets the pitch shift amount in steps of one cent	
Lo/Hi Cut (Low/High Cut)	Lo:-50%..., Flat, ...Hi:-50%
Sets the damping amount in the low / high range	
Dry:Wet	Dry, 1:99...99:1, Wet
Sets the balance between the effect and dry sounds	
Feedback	–100...+100%
Sets the feedback amount	
In Level (Input Level)	0...100%
Sets the input level to the effect	

Category: Dynamics&Filter
Dynamics / Filter-type effects

42: Mono Compressor

Threshold	–30.0...0.0dB
Sets the level at which compression begins to apply	
Ratio	1.00:1...20.0:1
Sets the compression ration of the signal	
Attack	0...1.00sec
Sets the attack time	
Release	0...10.0sec
Sets the release time	
Response	Slow, Medium, Fast
Selects the response speed	
Tube Sat (Tube Saturation)	0...100
Sets the depth of vacuum tube distortion	
Out Gain (Output Gain)	–24.0...+24.0dB
Adjusts the output level gain	

43: Mono Expander

Threshold	–48.0...0.0dB
Sets the level at which compression begins to apply	
Ratio	1.00:1...20.0:1
Sets the compression ration of the signal	
Attack	0...1.00sec
Sets the attack time	
Release	0...10.0sec
Sets the release time	
Response	Slow, Medium, Fast
Selects the response speed	
Out Gain (Output Gain)	–24.0...+24.0dB
Adjusts the output level gain	

44: Mono Limiter

Threshold	–48.0...0.0dB
Sets the level at which compression begins to apply	
Attack	0...1.00sec
Sets the attack time	
Release	0...10.0sec
Sets the release time	
Out Gain (Output Gain)	–24.0...+24.0dB
Adjusts the output level gain	
Response	Slow, Medium, Fast
Selects the response speed	
Tube Sat (Tube Saturation)	0...100
Sets the depth of vacuum tube distortion	

45: Mono Gate

Threshold	–48.0...0.0dB
Adjusts the level at which compression	
Attack	0...1.00sec
Sets the attack time	
Release	0...10.0sec
Sets the release time	
Range	–inf, –48...0.0dB
Compression level	
Response	Slow, Medium, Fast
Selects the response speed	
PreDelay (Pre Delay Time)	0...200ms
Sets the delay time	
Out Gain (Output Gain)	–24.0...+24.0dB
Adjusts the output level gain	

46: Mono Filter

Fc Bottom (Control Fc Bottom)	53Hz...20.0kHz
Sets the lower limit of the frequency to be controlled	
Fc Top (Control Fc Top)	53Hz...20.0kHz
Sets the upper limit of the frequency to be controlled	
Resonance	0...100%
Sets the resonance amount	
Trim	0...100%
Adjusts the filter level	
FilterType	HPF, BPF, LPF
Selects the filter type	
Control (Control Source)	Envelope, LFO
Switches the control source	
Polarity	[+]Plus, [–]Minus
Inverts the control	

Dry:Wet	Dry, 1:99...99:1, Wet
Sets the balance between the effect and dry sounds	
Waveform (LFO Waveform)	Triangle, Sine, Saw
Selects LFO Waveform	
LFO Speed	0.02...20.00Hz
Sets the LFO speed	
LFO Step	0...256
Selects the LFO step	
Env.Resp (Envelope Response)	Slow, Medium, Fast
Selects the response speed of envelope control	
Env.Sens (Envelope Sensitivity)	0...100%
Sets the sensitivity of envelope control	

47: Mono Wah

Control (Control Source)	Envelope, LFO, Manual
Switches the control source	
Wah.Type	Y-CRY, RM-A, RM-B, J-CRY, VOX, M-VOX
Selects the wah type	
Env.Resp (Envelope Response)	Slow, Medium, Fast
Selects the response speed of envelope control	
Env.Sens (Envelope Sensitivity)	0...100%
Sets the sensitivity of envelope control	
Waveform (LFO Waveform)	Triangle, Sine, Saw
Selects LFO Waveform	
*LFO Speed	0.02...20.00Hz
Sets the LFO speed	
LFO Step	0...256
Selects the LFO step	
*Manual (Manual Control)	0...100
Sets the control position manually	
DirectMix (Direct Mix Level)	0...100%
Adjusts the mix level of the direct sound	
Wah Level	0...100
Sets the wah level	

Category: SFX&etc
SFX/Etc effects

48: Mn.Analog Record (Mono Analog Record)

RPM	33 1/3, 45, 78
Sets the r.p.m. of a record	
Wah (Wah Flutter)	0...100%
Sets the depth by which the record is warped	
Bend	0...100%
Sets the width by which the record is warped	
Dry:Wet	Dry, 1:99...99:1, Wet
Sets the balance between the effect and dry sounds	
ClickLevel (Click Noise Level)	0...100%
Sets the level of click noise	
ClickAngle (Click Angle)	0...100
Sets the angle of the scratch on the surface of the record	
LoDamp (Low Damp)	THRU, 21Hz...8.00kHz
Sets the damping amount in the low range	
HiDamp (High Damp)	53Hz...20.0kHz, THRU
Sets the damping amount in the high range	
ClickPoint	0...100
Sets the distance of the scratch from the warped area	
WhiteLevel (White Noise Level)	0...100%
Sets the level of white noise	
NoiseLoCut (Noise Low Cut)	THRU, 21Hz...8.00kHz
Sets the low-cut frequency for the noise	
NoiseHiCut (Noise High Cut)	53Hz...20.0kHz, THRU
Sets the high-cut frequency for the noise	

49: Mn.Ring Modulator (Mono Ring Modulator)

Oscillator (Oscillator Frequency)	0...12.00kHz
Sets the oscillator frequency	
*LFO Speed	0.02...20.00Hz
Sets the LFO speed of the oscillator frequency modulation	
*LFO Depth	0...100%
Sets the depth of LFO modulation for the oscillator frequency	
Dry:Wet	Dry, 1:99...99:1, Wet
Sets the balance between the effect and dry sounds	
Delay (Delay Time)	0...2.730sec
Sets the delay time	
Feedback	–100...+100%
Sets the feedback amount	
HiDamp (High Damp)	53Hz...20.0kHz, THRU
Sets the damping amount in the high range	
In Level (Input Level)	0...100%
Sets the input level to the effect	

50: Tube Pre Amp Sim (Tube PreAmp Simulator)

This effect simulates a vacuum tube preamp. You can make independent settings for two vacuum tubes connected in series, producing a distinctive and warm sound.

Tube1.Gain	–24.0...+24.0dB
Sets the gain of tube circuit 1	
Tube1.Sat (Tube1 Saturation)	0...100%
Sets the amount of saturation for tube circuit 1	
Tube2.Gain	–24.0...+24.0dB
Sets the gain of tube circuit 2	
Tube2.Sat (Tube2 Saturation)	0...100%
Sets the amount of saturation for tube circuit 2	
Tb1.LoCut (Tube1 Low Cut)	THRU, 21Hz...8.00kHz
Sets the amount of low-frequency attenuation for tube circuit 1	
Tb1.HiCut (Tube1 High Cut)	53Hz...20.0kHz, THRU
Sets the amount of high-frequency attenuation for tube circuit 1	
Tb2.LoCut (Tube2 Low Cut)	THRU, 21Hz...8.00kHz
Sets the amount of low-frequency attenuation for tube circuit 2	
Tb2.HiCut (Tube2 High Cut)	53Hz...20.0kHz, THRU
Sets the amount of high-frequency attenuation for tube circuit 2	
Tube1Bias	0...100%
Sets the bias for tube circuit 1	
Tb1.Phase (Tube1 Phase)	Normal, Inverted
Sets the output phase of tube circuit 1	
Tube2Bias	0...100%
Sets the bias for tube circuit 2	
Out Level (Output Level)	–48.0...0.0dB
Sets the output level	

51: Mic Simulator

This effect simulates a wide variety of microphones. You can also adjust the preamp.

MicType (Microphone Type)	Vntg.Dy, Multi.Cn, Prcs.Cn, Whale, Vo.Cn, Vo.Tube, BDr.Dy
	Selects the type of mic
MicPosition (Microphone Position)	Close, On, Off, Far
	Selects the position of the mic
PreAmp G (Pre Amp Gain)	–24.0...+24.0dB
	Sets the gain of the tube preamp
TubeSat (Tube Saturation)	0...100%
	Sets the amount of tube saturation
TubeBias	0...100
	Vacuum tube bias adjustment amount
LowCut	THRU, 21Hz...8.00kHz
	Sets the damping amount in the low range
HiCut (High Cut)	53Hz...20.0kHz, THRU
	Sets the damping amount in the high range
OutLevel (Output Level)	–48.0...00dB
	Sets the output level

Category: Multi
Multi Effect

52: GuitarMulti

This is a multi-chain effect for guitar.

Chain: [Wah]-[Comp]-[Mod]-[Amp]-[Dly]

Parameters for the effects in the chain

Wah (Wah Wah)

Control (Control Source)	Envelope, Manual
	Switches the control source
Wah.Type	Y-CRY, RM-A, RM-B, J-CRY, VOX, M-VOX
	Selects the wah type
Env.Resp (Envelope Response)	Slow, Medium, Fast
	Selects the response speed of envelope control
Env.Sens (Envelope Sensitivity)	0...100%
	Sets the sensitivity of envelope control
*Manual (Manual Control)	0...100
	Sets the control position manually
DirectMix (Direct Mix Level)	0...100%
	Adjusts the mix level of the direct sound
Wah Level	0...100
	Sets the wah level

Comp (Compressor)

Threshold	–48.0...0.0dB
	Sets the level at which compression begins to apply
Attack	0...1.00sec
	Sets the attack time
OutGain (Output Gain)	–24.0...+24.0dB
	Adjusts the output level gain

Mod (Modulation)

ModType (Modulation Type)	Chorus, Flanger, Tremolo
	Selects the modulation type
Speed (LFO Speed)	0.02...20.00Hz
	Sets the LFO speed
Shape (LFO Shape)	–100...+100%
	Determines how much the LFO waveform is changed
Depth	0...100
	Sets the depth of LFO modulation

Amp (AmpCabModeling)

This effect models a guitar amp cabinet.

AmpType (AmpType)	AC15, AC30, AC30TB, BLK2x12, TWD1x12, TWD4x10, BTQ CL, BTQ OD, UKBUES, UK'70S, UK'80S, UK'90S, UK MDN, US MDN, RECTO, US HI-G
	Selects the type of amplifier
DRIVE (Drive Level)	1...100
	Sets the amount of distortion
VOLUME (Volume Level)	1...100
	Sets the volume level
CabType (CabinetType)	1x12TWD, 2x10BLK, 2x12BLK, 1x12VOX, 2x12VOX, 4x10TWD, , AD412, UK-H30, UK-T75, US-V30, OFF
	Selects the type of cabinet
BASS	0...100
	Sets the low-frequency level
MIDDLE	0...100
	Sets the mid-frequency level
TREBLE	0...100
	Sets the high-frequency level
PRESENCE	0...100
	Sets the level of the high region
NR.Thrsh (NoiseReduction Threshold)	0...100
	Level at which noise reduction begins to apply

Dly (Long Delay)

Time (Delay Time)	0...10.365sec
	Sets the delay time
Feedback	–100...+100%
	Sets the feedback amount
In Level (Input Level)	0...100%
	Sets the input level to the effect
Dry:Wet	Dry, 1:99...99:1, Wet
	Sets the balance between the effect and dry sounds
LoDamp (Low Damp)	THRU, 21Hz...8.00kHz
	Sets the damping amount in the low range
HiDamp (High Damp)	53Hz...20.0kHz, THRU
	Sets the damping amount in the high range

Appendices

Troubleshooting

Power does not turn on

☐ Is the power cable connected to an outlet? (→p.1)

☐ Is the rear panel POWER ON (power supply) switch turned on? (→p.1)

Nothing appears in the display

☐ Is the top panel power on key lit? (→p.1)

☐ Is the contrast adjusted correctly? (→p.8)

Vertical lines are visible in the display

☐ Depending on the content of the display, vertical lines may be visible in the display, but this is not a malfunction.
→ If the screen is difficult to read, adjust the contrast (→p.8).

No sound

☐ Is the power of the D3200 or a connected device turned off? (→p.1)

☐ Is the **MASTER** fader, **MONITOR LEVEL** knob, or **PHONES LEVEL** knobs set to low?

☐ Is the channel volume level set to low?
The actual volume level may not match the fader positions if pairing has been used and then switched off, or after automation has been used.
→ Go to the **MIXER**, **FADER/PAN/AUTOMATION**, **"Fader Pan"** tab page, and raise and lower the fader to match the fader position to the actual volume. Then adjust the fader to an appropriate level.

☐ Is the Solo function activated?
→ If Solo is being used, you will not hear channels that are not being soloed.

Can't hear the playback

☐ With the **REC/PLAY** key on, are the **channel keys** set to Play mode for the appropriate tracks? (→p.8)

☐ With the **CH ON** key on, are the **channel keys** turned On? (→p.8)

☐ Has solo been turned on, so that other tracks are not heard? (→p.8, 99)

☐ If you have selected Cue, could the cue level of the channels be lowered?
→ Access the **MIXER**, **SOLO/MONITOR**, **"CueLevel"** tab page and raise the cue level. (→p.48)

☐ Could the **Trim** level be turned down in the **EFFECT, "InsertEFF"** tab page?
→ If a channel is assigned to an insert effect, the volume of that channel is determined by the **Trim** setting even if the insert effect is set to NO EFFECT.

☐ Is the **1–16/17–32** key set correctly? (→p.8)

Input sound is inaudible or too soft

☐ Is the **TRIM** knob raised to an appropriate level?

☐ After connecting your audio source to an input jack, did you assign it to a mixer channel?
→ In the **MIXER**, **CH INPUT/SubMixer**, **"Ch Assign"** tab page, assign the source to a mixer channel. (→p.42)

☐ Verify that audio is being input.
→ Press the **METER** key, and in **"Meter/Track View,"** set **"Select Level Meter Position"** to **"CH-Input."** Watch the meters to verify that audio is being input to each mixer channel (→p.43).

☐ With the **REC/PLAY** key on, are the **channel keys** set to Record mode? (→p.8)

☐ Are the monitor settings appropriate?
→ In the **MIXER**, **SOLO/MONITOR**, **"Monitor"** tab page, select the signal that you want to monitor (normally, turn **"MasterLR"** On). If you have turned **"Rhythm"** or **"Cue"** "On," raise their volume levels. (→p.47)

☐ With the **CH ON** key on, are the **channel keys** turned On? (→p.8)

☐ Is the **PAD** key on?

☐ Are you using INPUT1 and GUITAR IN simultaneously?
→ INPUT1 and GUITAR IN are shared. If a guitar is connected to GUITAR IN, you cannot use INPUT1.

☐ If cue is selected, the cue level of each channel may have been lowered.
→ In the **MIXER**, **SOLO/MONITOR**, **"CueLevel "** tab page. (→p.48)

☐ Is the **1–16/17–32** key set correctly? (→p.8)

☐ Could the **Trim** level be turned down in the **EFFECT, "InsertEFF"** tab page?
→ If a channel is assigned to an insert effect, the volume of that channel is determined by the **Trim** setting even if the insert effect is set to NO EFFECT.

No sound from AUX OUT

"Can't apply external effect (AUX)" (→p.166)

No drum sound

Session drums "Drum sound is not output" (→p.166)

Can't hear scrub playback

☐ The incorrect track may be selected in the scrub page.
→ Select the correct track.

Faders don't work

Fader does not work

☐ If you switch pairing off after channels were paired, or if you recall a scene, the audio level of a channel may not match the position of the fader.
→ Raise or lower the fader so that it matches the actual volume level.

Can't record

☐ Are the D3200's **channel fader(s)** lowered?

☐ Is the recording-destination track's **REC/PLAY** key set to REC?

☐ Is the **CH ON** key turned on? (→p.8)

☐ Is there enough space on the drive?
→ Set the counter display to **"FreeTime,"** and check the available recording time. (→p.37, 98)
→ Increase the free space on the song drive by deleting unwanted songs or songs you have already backed up. (→p.41, 83)

☐ Is the input source you want to record assigned to a mixer channel?
→ In the **MIXER**, **CH INPUT/SubMixer**, **"Ch Assign"** tab page, assign the input source to a mixer channel. (→p.42)

☐ Is the **REC/PLAY MODE** appropriate? (→p.64, 147)

Can't use digital input

☐ If you want to use S/P DIF input, access the **MIXER**, **CH INPUT/SubMixer**, **"Ch Assign"** tab page, and set **"Source select"** to **"S/P DIF."** Then specify digital input as the input for the channel you want to assign (→p.42).

☐ Is the S/P DIF input format incorrect?
→ Connect an instrument or digital audio device that complies with the S/P DIF format.

☐ Do the sampling frequency and bit depth of the current song match that of the input?

Playback level is lower than the level during recording

☐ If you lowered the attenuator during recording while using the input EQ, could you have forgotten to reset the attenuator for playback?

☐ Have you set the recording level to PST (post-fader) during recording, recorded at a level below unity gain, and then played back with these same settings?
→ If you want to play back at the recorded level, set the **channel fader** to unity gain.

The input or recorded sound is noisy or distorted

☐ Is the **TRIM** knob set appropriately? The sound will be distorted if the **TRIM** knob is set too high, and there will be more noise if it is set too low.
→ To optimally set the **TRIM** knobs of the INPUT 1–INPUT 12 jacks, press the **METER** key to access **"Meter/Track View,"** and set **"Select Level Meter Position"** to **"CH-Input."** Then adjust the TRIM knobs as high as possible without allowing the **"CLP"** indicator to appear in the level meter.

☐ Are you using effects?
→ Some effects add distortion or noise. Verify that there is no distortion or noise when you are not using an effect.

☐ If the effect input or output is still distorted, make the following adjustments.

→ **Input**

Insert effect:
While you watch the meters in the **EFFECT "Insert-EFF"** tab page, use the **TRIM** knob to adjust the input volume so that **"CLP"** does not light.

Master effect:
While you watch the meters in the **MIXER**, **SEND (EFF/AUX/REC)**, **"EFF1Send"/"EFF2Send"** tab page, adjust the send volume so that **"CLP"** does not light.

Final effect:
While you watch the meters in the **EFFECT**, **"Final-EFF"** tab page, adjust the volume of each channel so that **"CLP"** does not light.

→ **Output**

Insert effect:
Adjust the effect parameters or **TRIM** knob, and listen for any distortion.

Master/final effect:
While you watch the meters in the **EFFECT**, **"MstrEFF1/2"/"FinalEFF"** tab page, adjust the effect parameters so that **"CLP"** does not light.

☐ If the sound is distorting in the EQ, make the following adjustments.
→ Adjust the EQ gain values (→p.45).
→ Adjust the attenuator (→p.45).

☐ Did you use Cue during or after recording?
→ Make sure that the **channel fader** and channel Cue level are not both raised (→p.48).

Effects do not apply

☐ You may have selected effect program number 00.
→ Set **"EffectNumber"** to other than "**000**" (=NO EFFECT).

Insert effects do not apply

☐ Is the effect inserted at the appropriate location?
→ In the **EFFECT**, **"EFFRouting"** tab page, select **"IN"** if you want to apply the insert effect to the input, or **"TR"** if you want to apply it to the playback. (→p.113)
→ Go to the **EFFECT**, **"EFFRouting"** tab page and verify that the effect assign channel (track) is correct. (→p.23, 54)

Can't apply master effects

☐ Is the send level from each channel set to zero or nearly zero?
→ Raise the send levels in the **MIXER**, **SEND (EFF/AUX/REC)**, **"EFF1Send"/"EFF2Send"** tab pages.

☐ Is the return level set to zero or nearly zero?
→ Go to the **EFFECT**, **"MstrEFF1/2"** tab page, and raise the **"Return Level"** setting.

☐ If you are monitoring the sound from the **MONITOR L/R** jacks, the monitor LR bus output may be turned off.
→ In the **MIXER**, **SOLO/MONITOR**, **"Monitor"** tab page, click the **MasterLR** button to turn it "On."

Can't apply the final effect

☐ If you are monitoring the sound from the **MONITOR L/R** jacks, the master LR bus output may be turned off.
→ In the **MIXER**, **SOLO/MONITOR**, **"Monitor"** tab page, click the **MasterLR** button to turn it "On."

Can't use the expression pedal or MIDI to control an effect

☐ In the **SYSTEM/MIDI**, **"Control"** tab page, is the effect selected by **"Control Change Assign"** enabled?
→ Go to the **EFFECT**, **"EFFRouting"** tab page and verify that the effect is enabled.

☐ Are you using the correct device to control the effect?
→ Control the effect using the device specified by the **"Control Change Device"** setting in the **SYSTEM/MIDI**, **"Control"** tab page. (→p.119)

☐ Is the selected effect set to effect program number **"000"** (=NO EFFECT) or to an effect program number that does not include a control function?

☐ If you are controlling via MIDI, does the MIDI channel number of the D3200 match the MIDI channel of the transmitting MIDI device? (→p.124)

☐ Is the effect program's **Ctrl** setting turned on? (→p.57)

Can't apply external effect (AUX)

☐ Is the external send level setting set to zero or nearly zero?
→ Go to the **MIXER**, **SEND (EFF/AUX/REC)**, **"AUX1 Send"/"AUX2 Send"** tab page, and raise the external send level.

☐ Is the output of your external effect connected to the INPUT 1–INPUT 12 jacks, and input to the mixer channels?
→ Go to the **MIXER**, **CH INPUT/SubMixer**, **"Ch Assign"** tab page and make the appropriate assignments.

☐ Have sub input settings been made correctly? (→p.44, 101)

Session Drums

Drum sound is not output

☐ Is the **DRUMS** key turned off?
Is the **DRUMS** fader lowered?

☐ Is the rhythm assign setting appropriate?
→ If the rhythm is assigned to a **CH Input**, input the rhythm to a mixer channel.

☐ Is the recorder stopped?
→ Press the **PLAY** key to play back. The rhythm will sound while the recorder is recording or playing,
If you want to preview the rhythm while the recorder is stopped, go to the **SESSION DRUMS**, **"SessionDr."** tab page and turn the **RUN** button on.

☐ You may have selected a silent drum pattern.

☐ The session drum volume may be too low.
→ Use **DRUMS** fader to adjust the volume.

Can't hear the drum

☐ Is the **DRUMS** key off? (→p.59)

A key does not function when pressed

☐ Some keys do not function while the recorder is playing or recording.
→ Stop the recorder, and then perform the operation.

☐ Some keys do not function while Scrub is on.
→ Turn off Scrub, and then perform the operation. (→p.40, 146)

☐ Is a dialog box open?
→ Click either the **Yes**, **No** button to close the dialog box.

The 1–16/17–32 key does not work

☐ In the case of a 24-bit song, only sixteen channels are available, so this key will not function.

MIDI

MIDI sequencer won't synchronize / MIDI control is not possible

☐ Are the MIDI cables connected correctly? (→p.11)

☐ A MIDI cable may be broken.

Can't synchronize using MTC or MIDI Clock

☐ Are the master and slave settings correct? (→p.125)

☐ Does the synchronization signal being output by the D3200 match the synchronization signal your MIDI sequencer is receiving?
→ Go to the **SYSTEM/MIDI**, **"MIDI/MMC"** tab page and check the **"MIDI Sync"** setting. (→p.125)

☐ Are the synchronization settings of your MIDI sequencer appropriate?
→ Refer to the owner's manual of your MIDI sequencer.

The D3200 doesn't receive MMC

☐ In the **SYSTEM/MIDI**, **"MIDI/MMC"** tab page, is **"MMC Mode"** set to **"Receive"**?

☐ In the above page, is **"MMC Device ID"** set to match the MMC device ID setting of your MIDI sequencer? (→p.125)
→ For some MIDI sequencers, the MMC device ID setting may differ.

☐ Is your MIDI sequencer set to transmit MMC?
→ Refer to the owner's manual of your MIDI sequencer.

Can't use MIDI to control scenes

☐ Do the MIDI channels of the D3200 and your MIDI sequencer match?
→ Go to the **SYSTEM/MIDI**, **"MIDI/MMC"** tab page and check the **"Global Ch"** setting. (→p.125)

☐ Are program changes turned off?
→ Check the settings in the **SYSTEM/MIDI**, **"MIDI/MMC"** tab page. (→p.124)

The D3200 does not synchronize as a slave

→ If the D3200 is set as an MTC slave, it may take several seconds for synchronization to occur.

→ Do the **Frame Rate** settings match? (→p.125)

→ If you are using MTC to synchronize, the MIDI sequencer to which you are synchronizing must support MTC.

Can't control another device via MMC

☐ In the **SYSTEM/MIDI**, **"MIDI/MMC"** tab page, is **"MMC Mode"** set to **"Transmit"**?

☐ Is the MMC slave device set so that it will receive MMC?

☐ Does the D3200's MMC Device ID match the external MIDI device's MMC Device ID?

Can't use MIDI to control mixer parameters

☐ Is the device that is receiving the control changes set to record all MIDI channels 1–16?

☐ Are control changes turned off?
→ Check the settings in the **SYSTEM/MIDI**, **"MIDI/MMC"** tab page. (→p.124)

CD-R/RW

Can't write

☐ No further data can be written to a CD-R/RW disc that has been finalized. (→p.140)

☐ No data can be written to a CD-RW disc that contains data written by another device.

☐ Failed while writing to CD.
→ Select an appropriate speed for writing to CD-R/RW. If you failed while writing at the highest speed, try a slower speed. In some cases if you are using a disc that is optimized for high-speed writing, you may be unable to write at low speeds.
→ Try a different disc.

☐ Can't select some speeds when writing to CD.
→ The speeds that you can select will differ depending on the type of disc.

☐ Can't create an audio CD.
→ Use a blank disc.

Can't play back on an audio CD player

☐ Did you finalize the disc?
→ In the **CD**, **Track at once** page, click the **Finalize** button to finalize the disc. (→p.140)

☐ Did you use CD-R disc?
→ Some CD players are unable to play back CD-RW discs. We recommend that you use CD-R discs.

☐ Have you tried using a different type of disc?
→ Even when the recommended media is used, some CD players are unable to play back certain types of CD-R/RW disc. You may be able to play back successfully if you use a different type of CD-R/RW disc.

Audio files

Can't preview

☐ Is the audio file format supported?
→ Preview a WAV file of a supported format. (→p.86, 135)

USB

Computer does not recognize the D3200

☐ Is the USB cable connected correctly? (→p.12)

☐ Is the D3200 set to USB Slave mode? (→p.93)

☐ Recognition may also fail on some models of Macintosh for specific versions of the operating system. In this case, leave the D3200 in USB mode, and disconnect and then reconnect the USB cable so that the D3200 will be recognized.

Error occurred when you disconnected the D3200 from the computer

☐ Use the correct procedure to disconnect. (→p.93)

When you connected the D3200, the computer asked you to install software or a device driver

☐ Does the operating system of your computer support the D3200? (→p.93)

Startup

The display hangs at "Start up from CD. Wait CD Mount." and startup does not occur

☐ Use the recovery CD to start up the D3200. (→p.96)

Various messages

The message dialog box will disappear when you click the OK button (or press the panel YES key).

Auto-Punch is not available in MTC Slave / Master mode.

☐ Auto-punch recording cannot be performed if the **MIDI Sync** setting is set to **MTC Slave** or **MTC Master**.

Cannot have more than 100 Songs.

☐ You cannot exceed maximum of 100 songs on one song drive.

→ Delete unneeded songs. Be sure to back up any data you wish to save before deleting it from the hard drive.

Check Sum Error occurred.

☐ The system update has failed.

→ Try the update procedure once again from the beginning. If this message still appears, please contact your Korg distributor.

Clock source changed to internal because S/P DIF Error occurred.

☐ Because the **S/P DIF** clock could not be detected correctly, the **Word Clock** setting **Clock Source** has been switched to **Internal**.

→ Make sure that the signal is being output correctly from the external device.

→ Make sure that the D3200 is correctly connected with the external device.

→ Make sure that the optical digital cable is not faulty.

Clock source changed to internal because the sampling frequencies do not match.

☐ Because the external sampling frequency does not match the sampling frequency of the current song, the **Word Clock** setting **Clock Source** has been switched to **Internal**.

Completed.

☐ The operation has been completed successfully.

Continuous recording time limit exceeded.

☐ The maximum continuous recording time is 12 hours. It is not possible to continuously record for longer than this.

Directory Path is too long.

☐ Access is not possible because the directory path is too long.

→ The D3200 cannot access a path that is longer than 64 characters. Do not create a directory path longer than 64 characters.

Disc is not CD-RW.

☐ The disc currently in the drive is not a CD-RW.

→ Insert a CD-RW disc.

Disk too busy.

☐ This message will appear if repeated punch-in / out recording or track editing operations have fragmented the data on the disk, slowing down access to the hard drive.

→ In the **TRACK**, **"EditTrk"** tab page, execute the **"OptimizeTrk"** operation. If this error message still appears even after you execute **"OptimizeTrk,"** go to the **SYSTEM/MIDI**, **"DiskUtility"** tab page and execute **"CheckDrive."**

note *If **"Disk too busy."** appears during playback, execute **"Check Drive"** with **"Current Song"** selected. If the message appears during recording, execute **"Check Drive"** with **"Current Partition"** selected.*

note *In some cases, ultra-low frequencies played back in the studio may cause **"Disk too busy."** messages to appear. In this case, eliminate the problem by relocating the D3200 before you execute the Check Drive operation.*

*If the Song Type is 48 kHz/24-bit and you record multiple tracks (four or more tracks) simultaneously, there is a increased possibility that the state of the hard disk recording area (i.e., fragmentation) will cause the **"Disk too busy."** message to appear. We recommend that you always execute **"OptimizeTrk"** (→p.74) after recording or editing multiple tracks simultaneously in a 48 kHz/24-bit song.*

Drive Error occurred.

☐ An error has occurred while accessing the drive.

→ If this message appears while you are working on a song drive, execute **"Check Drive."** If the message still appears after executing this, format the drive.

→ If this message appears while you are working on the PC drive, format the PC drive.

→ If this message appears while you are working on the CD drive, use a different disc. If the message still appears, it is possible that the CD-R / RW drive has malfunctioned. Please contact your Korg distributor.

Exceeds drive capacity.

☐ There is not enough free space on the drive.

→ If this message appears while you are working on a song drive, you can either delete the Undo data or delete unneeded songs. Alternatively, you can use a different song drive.

→ If this message appears while you are working on the PC drive, delete unneeded files or folders.

Exp / Cmp ratio is out of range.

☐ The expansion / compression ratio used in the **"ExpCmpTrk"** track edit operation is beyond the allowable range. The maximum expansion is double, and the maximum compression is half. Change the settings of the TO and END locations.

Failed to receive MIDI data.

☐ Reception of MIDI data has failed.

Failed to write CD.

☐ Writing to the CD-R / RW disc has failed.

→ Refer to the "Troubleshooting" section on CD-R / RW.

Failed to write System.

☐ System updating has failed.

→ It is possible that the D3200 has malfunctioned. Please contact your Korg distributor.

File List data error.

☐ There is an error in the audio data, and the song cannot be selected or saved.

→ Format the affected song drive.

Frame Rate does not match.

☐ The frame rate of the incoming time code does not match the frame rate of the current song.

Illegal Range. In = Out or Out < In.

☐ The operation cannot be executed because there is a problem with the IN and OUT locations specified for track editing or loop playback.

→ The IN and OUT locations are the same, or the OUT location is earlier than the IN location.

Illegal Range. To = End or End < To.

☐ The operation cannot be executed because there is a problem with the TO and END locations specified for track editing or loop playback.

→ The TO and END locations are the same, or the END location is earlier than the TO location.

In ~ Out is out of range.

☐ The operation cannot be executed because there is a problem with the IN and OUT locations specified for track editing or auto-punch recording.

→ Set the IN–OUT region not to exceed 12 hours in length.

In ~ Out is too short.

☐ There is not enough of an editing region for track editing to occur.

Insert next disc and press OK.

☐ Insert the next disc.

Insufficient space available on the CD.

☐ This CD-R/RW disc does not contain enough free space to write the selected data.

Maximum number of tracks is 99.

☐ A maximum of 99 tracks can be written to one CD.

No audio events on the master track.

☐ The master track does not contain any audio events.

No REC-READY tracks.

☐ None of the tracks have been set to the record ready mode.

Not enough Memory.

☐ The current recording or track editing operation would exceed the amount of memory space available.

→ Delete unneeded track data from the song.

→ In the **TRACK**, **"EditTrk"** tab page, execute **"OptimizeTrk"** operation. If error messages still appear after you execute **"OptimizeTrk,"** go to the **SYSTEM/MIDI**, **"DiskUtility"** tab page and execute **"CheckDrive."**

Number of tracks does not match.

☐ When executing a track edit operation, the number of tracks before and after the operation does not match.

Operation canceled.

☐ The operation was canceled.

Repaired successfully.

☐ When the hard drive was checked, errors found on the disk were repaired successfully. The audio data has also been completely recovered.

Repaired, but some audio data was lost.

☐ When the hard drive was checked, errors were found on the disk. The drive was repaired, but some audio data could not be completely repaired. You may hear some "pops" in the sound.

→ You can minimize the pops by executing **"ErasePunchNoise."**

Root Directory is full.

☐ You have reached the maximum number of files or folders that can be saved in the root directory of the PC (USB) drive.

→ Delete unneeded folders or files.

Sampling Frequency does not match.

☐ The external sampling frequency clock does not match the sampling frequency of the current song.

Scrub Location exceeded song end.

☐ The scrub function controlled by the **SCRUB** key is able to display the waveform in a range from the beginning to the end of the song.
If you press the **SCRUB** key at a location that is later than the end, this message will appear, and then the location will return to the end of the song.

Song Data error.

☐ The song data contains an error, and cannot be selected or saved.

→ Delete the song that cannot be selected or saved.

→ Format the affected song drive.

Song End out of range.

☐ Executing the track editing operation would cause the ending location of the song to exceed the allowable song length.

→ A song cannot be more than 23:59:59.999 in length.

Song List data error.

☐ The song list data contains an error, and the song cannot be selected or saved.

→ Format the affected song drive.

S/P DIF Error occurred.

☐ An error has occurred in the S/P DIF digital connection.

→ Make sure that the external device is correctly connected to the D3200.

→ Make sure that the optical digital cable is not faulty.

Tempo too fast.

☐ When recording tempo, recording failed because the tempo was too fast.

→ If you are recording MIDI Clock data, set the MIDI output device to a slightly slower tempo.

→ If you are recording tap tempo, tap more slowly.

Tempo too slow.

☐ When recording tempo, recording failed because the tempo was too slow.

→ If you are recording MIDI Clock data, set the MIDI output device to a tempo of ♩=40 or faster.

→ If you are recording tap tempo, tap more quickly.

The data is unchanged.

☐ The operation was executed, but the results are identical to the previous state.

The location cannot be stored.

☐ The current location cannot be stored.

This CD is not playable.

☐ The CD cannot be played because is not an audio CD or because it has not been finalized.

This file name is already in use.

☐ An identically-named file already exists.

→ Change the file name.

This format is not supported.

☐ The inserted disc is in a format that the D3200 is unable to read.

This is a blank CD.

☐ You have inserted a blank disc.

This operation is not available.

☐ It is currently not possible to perform this operation.

To ~ End is out of range.

☐ The track editing operation cannot be executed because there is a problem with the TO and END locations you specified.

→ The TO–END region must not exceed 12 hours.

To ~ End is too short.

☐ There is not enough of an editing region for track editing to occur.

Too many files in this drive.

☐ No more audio data files can be saved on the song drive.

→ Either erase the Undo data, or delete unneeded songs. Alternatively, use a different song drive.

Too many REC-READY tracks for Punch Rec.

☐ The number of tracks selected for recording exceeds the allowable number of tracks for punch-recording.

→ Refer to “Recorder” (→p.64).

Track length is under 4 seconds.

☐ When using Disc At Once to create an audio CD, the data contained a track that is shorter than four seconds.

→ The minimum time for a track (the total of the song to be written and the post-gap) is four seconds.

Trigger / RecStart is not available in MTC Master mode.

☐ In order to perform **Trigger/RecStart** recording, the **MIDI Sync** setting cannot be set to **MTC Master**.

Trigger / RecStart is not available in MTC Slave mode.

☐ In order to perform **Trigger/RecStart** recording, the **MIDI Sync** setting cannot be set to **MTC Slave**.

Trigger recording is not available for the master track.

☐ You can’t perform trigger recording if the **MASTER TRACK STATUS** key is set to **REC**.

Undo Data error.

☐ The song cannot be selected or saved because there is an error in the Undo data.

→ Delete the song that cannot be selected or saved.

→ Format the affected song drive.

Wrong disc.

☐ The wrong disc is inserted for the operation you are attempting to execute.

Confirmation messages

Info: “**”**

☐ This will appear when there is information to be conveyed to the user.

→ Click the **OK** button (or press the panel **YES** key) and continue operation.

Serious error messages

Fatal: “**”**

☐ This will appear if a problem or malfunction has occurred on the D3200.

→ If this type of message appears, write down the contents of “****” and contact your Korg distributor.

More about drives and files

Drives

The files that can be handled by the CD-R/RW drive and PC (USB) drive are explained below.

CD-R/RW drive

This drive can handle the following types of discs.

Media type	Purpose
CD (audio CD)	read only
CD-ROM (data CD)	read only
CD-R	read/write
CD-RW	read/write/erase

Supported file	Supported format	Operations
Audio CD	CD-DA (Red book compliant)	playback, writing
Backup file	ISO 9660 Level 1	backup, restore
WAV format audio file	ISO 9660 Level 1	import, export
WAV format audio file	UDF format	import

- By erasing a CD-RW, you can use it again as a blank disc.
- When writing to a disc, you can specify the speed at which data will be written. Choose a speed that the disc you are using supports.
- There are two ways to write a CD.

Disc At Once

- Creating an audio CD using Album CD Project

This performs the entire process from writing multiple songs through finalization in a single step. No additional writing will be possible.

Track At Once

- Creating an audio CD track by track
- Backing up
- Exporting audio files

Additional data can be written up to 99 times, as long as there is free space on the disc.
To prevent additional data from being written, finalize the disc.

note *When writing additional data, writing will be more reliable if you use the same writing speed as when writing the previous data.*

PC (USB) drive

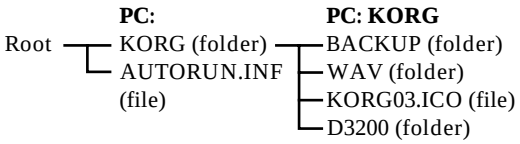
You can transfer files between this drive and a song drive or your personal computer.
Within the PC (USB) drive, you can view, delete, or rename files and folders.
This drive can be set to have a 2 GB, 4GB, or 8GB capacity, and will be recognized by your computer as a drive named **KORG D3200**.

Supported file	Operations
Backup file	backup, restore
WAV file	import, export
PC file	Edit PC File

Supported format
FAT16 file system; long file names are not supported, and double-byte characters (such as Japanese) are not supported.

The PC (USB) drive has the following structure.

Folder/file structure



BACKUP folder

When backing up → back up to the BACKUP folder.
When restoring → the BACKUP folder will be referenced, but you can choose from any folder.

WAV folder

When exporting → back up to the WAV folder.
When importing → the WAV folder will be referenced, but you can choose from any folder.

AUTORUN.INF, KORG03.ICO

The files contain settings.

*Do not delete the **AUTORUN.INF** or **KORG03.ICO** files.*

D3200 folder

This folder is used for updating the system.

note *The above folders and setting files are created when you format the PC (USB) drive on the D3200. Do not format the PC (USB) drive from your computer.*

note *For details on operations between your computer and the PC (USB) drive, refer to USB (→p.93).*

Audio CDs and files

Audio CDs

Playing an audio CD

Use **CD**, **CD PLAYER** to play back an audio CD.
You cannot play back a CD-R / RW that has not been finalized.

note *You cannot play back discs that do not conform to the Compact Disc (CD) specification, such as music discs utilizing copy-protection technology.*

Creating an audio CD

Using Disc At Once

This method lets you edit the length of the gaps between songs, or divide a single song into several tracks.
You can also use this type of a disc as a pressing master for mass production. Since the disc will be finalized when it is written, no further data can be written to it.

- Maximum number of tracks 99
- Pre-gap time [0–59 seconds / 74 frames], default value 2 seconds *1
- Post-gap time [0–59 seconds / 74 frames], default value 0 seconds
- Minimum track duration 4 seconds

*1 *The pre-gap for track 1 is fixed at 0 seconds. The default pre-gap is 0 seconds for tracks that are divided by album CD track marks.*

Using Track At Once

Use this method when you want to write one track at a time. You can continue writing additional tracks until you finalize the disc.
Finalize the disc if you want to play it back on a CD player.

- Maximum number of tracks 99
- Silence between songs 2 seconds
- Minimum track duration 4 seconds

Files

Writing

You can write the following files from the D3200 to the internal drive.

- Backup files (data specific to the D3200)
- WAV files
  (16-bit / 44.1 kHz, 16-bit / 48 kHz, 24-bit / 44.1 kHz, 24-bit / 48 kHz; monaural and stereo are supported)

The characters that can be used in a file name are single-byte uppercase alphabetical characters **"A"–"Z"** and numerals **"1"–"9,"** and the underline character **"_"**.

When renaming a file, you cannot change the extension.

Backup files

The amount of space required for the backup is displayed when you make settings for the backup.

CD-R/RW drive

- You can back up files across more than one disc if necessary.
- You will need to provide the necessary number of discs for the backup. (The discs do not have to be blank.)
- If the disc is not blank, it must have a certain amount of free space in order to be used for backup. If the disc does not have enough free space, an error message will appear.

PC (USB) drive

An error message will appear if the drive does not have enough free space.

Backup data filenames

The following names are automatically assigned according to the type of backup.

1Song

XXXXXX + YY + extension (.DBK)

XXXXXX will be the first six characters of the song name, and YY will be a number in the range of 01–99 indicating the backup disc number.

i.e. *If you are backing up a song named **"New MySong"** and this is the first disc of the backup, the default filename will be **"NEW_MY01.DBK"**.*

*If the song name contains a character that cannot be used in a filename, or a space, that portion will be replaced by an underline character **"_"**, and lowercase characters will be replaced by uppercase characters.*

All Data

ALLDAT + YY + extension (.DBK)

YY will be a number in the range of 01–99 indicating the backup disc number.
(01–99 is the number of the backup disc used)

i.e. *The default filename for the third backup disc is **"ALLDAT03.DBK"**.*

User Data

USERDATA + extension (.DUR)

The default filename is **"USERDATA.DUR"**.

WAV-format audio files

You can use the Export command to write WAV-format audio files.
An error message will appear if there is insufficient space. (→p.168 "Various messages")

- You can copy data to the clipboard and export it.
- If the clipboard contains data for one track, a monaural file will be created. If it contains two tracks, a stereo file will be created. If it contains four or more tracks, the corresponding number of monaural files will be created.

Filenames for audio data

Track content of the clipboard	ST or MN	Extension	No. of characters	Default filename
2 tracks	stereo	WAV	6 characters + ST	NONAMEST
Other than 2 tracks	monaural	WAV	6 characters + [01–16]	NONAME+ [01–16]
Master track L	monaural	WAV	6 characters + ML	NONAMEML
Master track R	monaural	WAV	6 characters + MR	NONAMEMR
Master track L/R	stereo	WAV	6 characters + MT	NONAMEMT

For example if you export an audio file whose original track number is 04, the file name will be **"NONAME04.WAV"**.

Loading

You can load the following files into the D3200.

- Backup files (data specific to the D3200)
- WAV files
  (44.1kHz / 16bit, 48kHz / 16bit, 96kHz / 16bit, 44.1kHz / 24bit, 48kHz / 24bit, 96kHz / 24bit; monaural and stereo are supported)
- PC files

Backup files

You can load these files into the D3200 by performing the Restore operation.
If the restore-destination song drive has insufficient space, an error message will appear. (→p.168 "Various messages")

File icons that you can view and select

: Folder icon
Indicates a folder. Select it to display the contents.

: Song data icon
Indicates song data. Select it to display the contents.

: Divided song data icon
Indicates song data that was divided into more than one backup volume. You cannot open this.

: User data icon
Indicates user data. Select this to display the contents.

: Song icon
Indicates song data.

: Effect data icon
Indicates user effect data.

: Mixer setup data icon
This indicates user mixer setup data.

: EQ library icon
Indicates user EQ library data.

:Album CD project icon
Indicates album CD project data.

note *A backup that spans more than one CD-R/RW disc must be restored in the order in which it was backed up. The last two characters of the file name will be a number that indicates the backup order; restore the discs in this order.*

note *If the song name contains characters other than alphanumeric characters and the underline "_", such characters will be converted into an underline "_". Lowercase characters will be converted into uppercase.*

WAV-format audio files

You can load these files into the D3200 by performing the Import operation.

note *If the import-destination song drive has insufficient space, an error message will appear. (→p.168 "Various messages")*

File icons that you can view and select

: Folder icon
Indicates a folder. Select it to display the contents.

: WAV icon
Indicates a WAV file. Only supported WAV files will be displayed.

Files on the PC (USB) drive (PC files)

If a file on the PC (USB) drive is in a supported format, you can use Edit PC File to view, delete, or rename the file / folder.
→ Edit PC File (→p.122)

File icons that you can view and select

: Folder icon
Indicates a folder. Select it to display the contents.

: File icon (PC file)
Indicates a file.

: Song data icon
Indicates song data.

: Divided song data icon
Indicates song data that was divided into more than one backup volume. You cannot open this.

: User data icon
Indicates user data.

: WAV icon
Indicates a WAV file.

: Song icon
Indicates song data.

: Effect data icon
Indicates user effect data.

: Mixer setup data icon
This indicates user mixer setup data.

: EQ library icon
Indicates user EQ library data.

:Album CD project icon
Indicates album CD project data.

Specifications

Operating temperature:
+5 – +35 °C (do not allow condensation)

■ Main sections

<Recorder section>

Number of tracks: 272 tracks (including virtual tracks)

Simultaneous playback 32 tracks, simultaneous recording 16 tracks*
@ 48 kHz / 44.1 kHz, 16-bit
* *12 analog inputs + 2 digital inputs (S/P DIF) + 2 Session Drums™ = 16*

Simultaneous playback 16 tracks, simultaneous recording 12 tracks
@ 48 kHz / 44.1 kHz, 24-bit

Recording format: 24-bit / 16-bit uncompressed, 44.1 kHz / 48 kHz

Recording time: 44.1 kHz, 16-bit: maximum 119 hours
* when using a 40 GB hard disk

Number of songs: 100 songs per drive

Locate points: four points per song

Mark points: 100 points per song (marks can be named)

Metronome / Drum patterns:
756 (96 / 660)

MMC functions: Transmitted and received

Synchronization: MTC transmission / reception, MIDI Clock transmission

Pattern map (200 events per song)

Sync track (one track per song)

Tempo recording

CD-R / RW functions:
Internal CD-R / RW, audio CD writing (Track At Once, Disc At Once), backup / restore, audio file (WAV format) import (ISO 9660), system load

USB functions: Backup / restore, audio file (WAV format) import / export (FAT16), system load

PC (USB) drive capacity:
2 / 4 / 8 GB

Track editing: Copy (overwrite / insert), erase, delete, swap, reverse, optimize, expand / compress, fade, normalize, erase punch noise, erase silence

Song editing: Copy, move, delete, rename, protect, save now

Display format: Calendar time, HDD remaining capacity, scene, mark, pattern map

Locate format: Hour / Min / Sec.ms, Hour / Min / Sec.Frame, Meas / Beat / Tick

<MIDI functionality>

MIDI functionality: Mixer control, effect control, MMC transmission / reception, MTC transmission / reception, MIDI Clock transmission

<Mixer section>

Internal processing: 69-bit

Inputs: 44 channels (32 recorder channels, 12 sub-in)

Buses: 12 buses
2 Eff Send buses, 2 AUX buses, 2 SOLO buses (stereo), 2 CUE buses (stereo), 2 MASTER buses (stereo), 2 MONITOR buses (stereo)

Equalizer: Recorder channels 1–24
4-band full parametric EQ

Recorder channels 25–32
2-band shelving EQ

Sub Mixer channels 1–12
2-band shelving EQ

Master track
4-band full parametric EQ

Scene memories: 100 scene per song

<Effect section>

Internal processing: 56-bit

Structure: Insert × 8 (maximum)
Master × 2 (maximum)
Final × 1
All usable simultaneously at 44.1 / 48 kHz

Programs: 128 preset, 128 user, 32 song

Algorithms: 52

<General>

Display: 320 × 240 pixel, four-level grayscale
Movable LCD with backlight

Power supply: AC Local Voltage

Power consumption:
47 W

Dimensions: 547 mm (W) × 371 mm (D) × 155 mm (H)
22.6" (W) × 14.61" (D) × 6.1" (H)
(With LCD fully raised)

Weight: 7.8 kg / 17.2 lbs

■ Principal specifications

Frequency response:
10 Hz – 20 kHz +1 dB / –2 dB
@ fs 44.1 kHz, +4 dBu, 10 kΩ load

10 Hz – 22 kHz +1 dB / –2 dB
@ fs 48 kHz, +4 dBu, 10 kΩ load

S / N: 98 dB (typical) @IHF-A

Dynamic range: 98 dB (typical) @IHF-A

THD+N: 0.02% (typical) 20 Hz–20 kHz
+16 dBu, 10 kΩ load

A / D conversion: 24-bit 64 times oversampling

D / A conversion: 24-bit 128 times oversampling

Sampling frequency
Internal: 44.1 kHz, 48 kHz

Record / Playback bit:
16-bit, 24-bit

■ Analog / digital input and output specifications

<INPUT 1–8>

Connectors: XLR-3-31 type (+48 V phantom power, switchable), 1/4" TRS phone jack (balanced)

Input impedance: 4 kΩ (XLR-3-31), 10 kΩ (TRS phone jacks)

Nominal level: –60 dBu to –22 dBu @ TRIM=max. – min. PAD OFF

–34 dBu to +4 dBu @ TRIM=max. – min. PAD ON

Maximum level: –48 dBu to –10 dBu @ TRIM=max. – min. PAD OFF

–22 dBu to +16 dBu @ TRIM=max. – min. PAD ON

Source impedance: 600 Ω

<INPUT 9–12>

Connectors: 1/4" TRS phone jack (balanced)

Input impedance: 10 kΩ

Nominal level: –60 dBu to –22 dBu @ TRIM=max. – min. PAD OFF

–34 dBu to +4 dBu @ TRIM=max. – min. PAD ON

Maximum level: –48 dBu to –10 dBu @ TRIM=max. – min. PAD OFF

–22 dBu to +16 dBu @ TRIM=max. – min. PAD ON

Source impedance: 600 Ω

<GUITAR INPUT>

Connector: 1/4" phone jack (unbalanced)

Input impedance: 1 MΩ

Nominal level: –60 dBu to –22 dBu @ TRIM=max. – min. PAD OFF

–34 dBu to +4 dBu @ TRIM=max. – min. PAD ON

Maximum level: –48 dBu to –10 dBu @ TRIM=max. – min. PAD OFF

–22 dBu to +14 dBu @ TRIM=max. – min. PAD ON

Source impedance: 600 Ω

<MASTER OUTPUT L/R>

Connectors: 1/4" phone jack (unbalanced)

Output impedance: 150 Ω

Nominal level: –10 dBu

Maximum level: +2 dBu

Load impedance: 10 kΩ or higher

<MONITOR OUTPUT L/R>

Connectors: 1/4" phone jack (unbalanced)

Output impedance: 150 Ω

Nominal level: –10 dBu

Maximum level: +2 dBu

Load impedance: 10 kΩ or higher

<AUX OUTPUT 1, 2>

Connectors: 1/4" phone jack (unbalanced)

Output impedance: 150 Ω

Nominal level: –10 dBu

Maximum level: +2 dBu

Load impedance: 10 kΩ or higher

<PHONES>

Connector: 1/4" stereo phone jack

Output impedance: 100 Ω

Maximum level: 50 mW+50 mW @ 32 Ω

<S/P DIF INPUT/OUTPUT>

Connector: optical

Format: 24-bit S/P DIF (IEC60958)

<USB>

Connector: Type B

Format: USB2.0 High-Speed device
USB Mass Storage Class

Supported OS: Window Me, Windows 2000 or later
Mac OS 9.0.4 or later

* If using the D3200 with Windows 98, please refer to the Korg website or contact your Korg distributor.

<MIDI IN/OUT>

Connectors: DIN 5-pin × 2

<FOOT SW>

Connector: 1/4" phone jack (use separately sold PS-1)

<EXPRESSION PEDAL>

Connector: 1/4" stereo phone jack
(use separately sold XVP-10 or EXP-2)

■ Included items

AC cable

Owner's manual

■ Separately sold options

PS-1 pedal switch

XVP-10 EXP/VOL pedal

EXP-2 foot controller

* Appearance and specifications of this product are subject to change without notice. (04, 2005)

Various lists

Drum Pattern List

The 1 Standard 1–8 etc variations consist of Variation 1–10, Fill In, and Ending.

	Group Name		Session Name	Variation
0	Metronome	1	Metro 4	16
		2	Hihat 4	16
		3	Metro 8	16
		4	Hihat 8	16
		5	Metro 16	16
		6	Hihat 16	16
1	Standard 1	1	8beat 1	12
		2	8beat 2	12
		3	8beat 3	12
		4	8beat 4	12
		5	16beat 1	12
		6	16beat 2	12
		7	16beat 3	12
		8	16beat 4	12
2	Standard 2	1	Processed 1	12
		2	Processed 2	12
		3	Processed 3	12
		4	Wet 1	12
		5	Wet 2	12
3	Pop/Rock	1	Rock'nRoll	12
		2	UK Rock	12
		3	US Rock	12
		4	Modern Rock	12
		5	Funk Rock	12
		6	Rock Ballad	12
		7	Pops	12
		8	Filter Pop	12
		9	Gated Pops	12
		10	Disco	12
		11	Country	12
		12	Distorted	12

	Group Name		Session Name	Variation
4	R&B/Hip Hop	1	R&B	12
		2	Slow R&B	12
		3	Soul 1	12
		4	Soul 2	12
		5	Motown	12
		6	Hip Hop	12
		7	Rap	12
5	Club	1	Techno	12
		2	House	12
		3	Garage	12
		4	2Step	12
		5	Electro	12
		6	NuSkul	12
		7	Big Beat	12
		8	DnBass	12
6	Jazz/Fusion	1	Swing	12
		2	Nu Jazz	12
		3	BigBand	12
		4	Funk	12
		5	Electric Funk	12
7	Latin/Ethnic	1	Brazil	12
		2	Bosa	12
		3	Samba	12
		4	AfroCuba	12
		5	Raggae	12
8	etc	1	6/8	12
		2	3/4	12
		3	Lounge	12
		4	88	12
		5	Lyn	12

EQ Library List

No.	Name	No.	Name	No.	Name	No.	Name	No.	Name
1	Bass Drum1	11	Syn.Bass1	21	A.G.Strum2	31	Total EQ2	41	FM Radio
2	Bass Drum2	12	Syn.Bass2	22	A.G.Arpegio1	32	Total EQ3	42	Old Record
3	Snare Drum1	13	Piano1	23	A.G.Arpegio2	33	Bass Drum3	43	Telephone
4	Snare Drum2	14	Piano2	24	Brass Section	34	Snare Drum3	44	Bright
5	Tom-Tom	15	E.G.Clean	25	Male Vocal1	35	Tom-Tom2	45	Dark
6	Cymbal	16	E.G.Crunch1	26	Male Vocal2	36	Piano3	46	Heavey Low
7	High Hat	17	E.G.Crunch2	27	Female Vocal1	37	Piano Low	47	Fat Middle
8	Percussion	18	E.G.Dist1	28	Female Vocal2	38	Piano High	48	Heavy Low
9	E.Bass1	19	E.G.Dist2	29	Chorus&Harmony	39	Fine-EQ Casset	49	50Hz HumCut
10	E.Bass2	20	A.G.Strum1	30	Total EQ1	40	Narration	50	60Hz HumCut

Name Library List

Data Name Library: You can choose these names when renaming EQ Library, Mixer Setup, Drive, Effect, Scene, Mark, Song, or Track.
File Name Library: You can choose these names when renaming PcFile, BackupFile, or WavFile.

Data Name Library		File Name Library	
Name	**Name**	**Name**	**Name**
Vocal	Fill	VOCAL	FILL
Guitar	A Melo	GUITAR	A_MELO
Bass	B Melo	BASS	B_MELO
Chorus	Solo	CHORUS	SOLO
Kick	Ending	KICK	ENDING
HiHat	Take	HIHAT	TAKE
Snare	Track	SNARE	TRACK
Tom	Dance	TOM	DANCE
RimShot	Groove	RIMSHOT	GROOVE
Cymbal	Rock	CYMBAL	ROCK
Ride	Pop	RIDE	POP
Crash	Jazz	CRASH	JAZZ
Percuss	Fusion	PERCUSS	FUSION
Key	Loop	KEY	LOOP
Piano	Live	PIANO	LIVE
Strings	Studio	STRINGS	STUDIO
Organ	Event	ORGAN	EVENT
SFX		SFX	
Count		COUNT	
Intro		INTRO	

Demo Song List

001: I'd Be A Fool

"I'd Be A Fool"
The song "I'd Be A Fool" was written,produced and arranged by Frank McComb (Boobeescoot Music-BMI/Chrysalis Songs-BMI 2004 All rights reserved).
Unauthorized reproduction of this recording is prohibited by federal law and subject to criminal prosecution. For permission of any use of this material please contact Frank McComb at frankmccomb2003@yahoo.com.

Shortcut keys

While holding down the STOP key

REW key	Move to the beginning of the song
FF key	Move to the end of the song
LOC 1 key	Move to the location at which recording last began
LOC 2 key	Move to the location at which recording last ended
+/– keys	Increment / decrement the song number

While holding down the SONG key

+/– keys	Increment / decrement the song number
ENTER key	Save the song (SaveSong)

While holding down the MARK key

+/– keys	Move to the following / preceding mark in the song
LOC 1/2/3/4 keys	Recall page memories 1 / 2 / 3 / 4

While holding down the JUMP / MATCH key

◄TAB key	Move to the far left tab from any tab in the page
TAB► key	Move to the far right tab from any tab in the page
◄/►/▲/▼ keys	In the Fader Pan, Mixer View, CueLevel, or SubMix screens, use these keys to switch the Knob Matrix between groups of 16
	In the Meter (TrackView) or Edit Track screens, use these keys to scroll the view window up / down or to zoom the scale in / out
	In the Scrub or Wave dialog box Control the waveform Zoom or Wide functions
MIXER key	Move to the Automation page / Turn automation on / off
SYSTEM/MIDI key	Switch between Jump / Match operation for the knobs and sliders / Switch the Fader / KnobControl setting

While holding down the SYSTEM / MIDI key

ENTER key	Enter USB Mode
+/– keys	Select the pointer speed in the Control tab page

While holding down the METER key

▲/▼ keys	Switch the MeterView type
◄/► keys	Switch between Input, PreFader, and PostFader

While holding down the TRACK key

+/– keys	Select the EditTrackType
CH (1–16) keys	Select the EditTrackType (1=Copy, 2=Insert ... 15=EraseSilence)

While holding down the MIXER key

LOC 1/2/3/4 keys	Recall page memories 1 / 2 / 3 / 4
▲/▼ keys	Move between MIXER pages in the + / – direction
◄/► keys	Move between MIXER pages in the + / – direction
CH VIEW key	Access the DrmsMixer tab page
EFFECT key	Access the CueLevel tab page
SEND key	Access the SubMix 1–4, 5–8, and 9–12 tab pages
EQ key	Access the MasterEQ tab page
PAN key	Access the MixerView tab page
REC/PLAY key	Access the ChAssign tab page
CH ON key	Access the ChOnGroup tab page
SOLO key	Access the Solo tab page
CH SELCT key	Access the Pair tab page
SCENE key	Access the Automation tab page

While holding down the (cursor) ▲ key

SYSTEM/MIDI key	Access the Calendar dialog box
SESSION DRUMS key	Switch the TimeDispType
LOC 1/2/3/4 keys	Move the cursor to the counter H / M / S / m
REC/PLAY-MODE key	Switch the information display

While holding down the (cursor) ▼ key

LOC 1/2/3/4 keys	Switch between tab pages (successively from the left) * From the left, tab pages 4, 5, and 6 will alternate each time you press the LOC 4 key

While holding down the UNDO key

+/– keys	Execute Redo / Undo

While holding down the REC / PLAY key

1–16 key	Simultaneously set all channels 1–16 to Play mode (green LED lit)
17–32 key	Simultaneously set all channels 17–32 to Play mode (green LED lit)

While holding down the CH ON key

1–16 key	Simultaneously turn on all channels 1–16
17–32 key	Simultaneously turn on all channels 17–32

While holding down the SOLO key

1–16 key	Simultaneously set channels 1–16 to SOLO On and channels 17–32 to SOLO Off
17–32 key	Simultaneously set channels 17–32 to SOLO On and channels 1–16 to SOLO Off

Glossary

16-bit

→ Bit depth

24-bit

→ Bit depth

Algorithm

→ Effect algorithm

Assign

To specify the source / destination (or placement) of a channel or effect.

Attenuator, ATT

A device or circuit that reduces the level of a signal.

Audio CD

CD-DA (Compact Disc Digital Audio). Commonly called "music CDs." A CD that contains only music data.

Auto punch in-out

A function that automatically punches-in (begins recording) when playback reaches a pre-specified location, and punches-out (resumes playback) when recording has continued to a different pre-specified location.

Automation

A function that records and reproduces the operations or settings of mixer knobs and faders according to the passage of internal time code or of externally-input MTC data.

AUX

Inputs or outputs used to connect high-impedance line level signals. AUX OUT jacks send signals to an external recorder or effect processor, and AUX IN jacks receive signals from a recorder or electronic musical instrument.

Backup

To copy program data or recorded audio data files onto another storage medium for safekeeping.

Balanced connection

A connection using a cable with three conductors; two conductors sending the "hot" (positive phase signal) and "cold" (negative phase signal), and the third conductor being the ground. Balanced cables have the advantage of being less susceptible to hum or noise even when carrying low-level signals.

Bit depth

The number of bits used to express gradations in the amplitude of an analog signal when converting it to digital form. Normally 16 bits or 24 bits are used. The greater the number of bits, the more precisely the original sound can be recorded.

Blank disc

A disc on which nothing has yet been written.

Bypass

To send a signal without passing it through a specific circuit. By temporarily bypassing an effect, you can hear how it is modifying the sound.

Channel / CH / ch.

A unit of signal routing capacity; the path taken by a signal that is input to the mixer section as its volume and pan are adjusted before being output.

Cue

A mixing balance or volume balance adjustment that allows the performer to hear their own performance (e.g., through headphones) while they play.

Current drive

The drive (partitioned area of the internal hard drive) that is currently selected and is the object of editing operations.

Current song

The song that is currently selected and is the object of editing operations.

Default settings

The factory-set state that appears when the power is turned on for the first time after purchasing the unit. Also called "factory settings."

Dialog box

A window (containing buttons or check boxes etc.) that asks the user for instructions.

Digital input / output

Inputting or outputting audio data in digital form. The D3200 comes with S / P DIF input / output as standard.

Disc At Once

A method by which the data to be recorded is converted into a complete disc image and then written to CD-R / RW in a single operation. Once this type of writing is performed, no further data can be written to that CD-R / RW even if it contained unused space.

Dither

Processing that is applied to minimize the noise that occurs when converting the bit depth of a digital audio signal as it is output.

Drive

A device used to store and reproduce data; e.g., a hard disk or CD-R / RW drive.

DSP

Stands for **D**igital **S**ignal **P**rocessor. A digital signal processing LSI optimized for processing audio or video. DSPs are built into recent recorders and effect processors. Their signal processing can be varied by software to perform a variety of operations.

Dynamic range

The range of volume level between silence and the maximum volume, expressed in dB (decibels). This is one of the elements that determines the accuracy with which a device can handle audio signals.

Effect algorithm

The calculation method that is the basis of an effect. The set of calculations that implement a certain type of signal processing.

Effect program

A program that specifies a set of parameters for use by an effect algorithm. The D3200 provides preset programs that contain factory settings, and user programs that can store your own edited settings.

Equalizer, EQ

A device that modifies the frequency response to change the tonal character. There are various types, including parametric equalizers, graphic equalizers, and shelving equalizers.

Export

To output or write data for use by another system or program.

Expression pedal

A pedal used to control the volume or parameters of an instrument or effect.

Fade-in/fade-out

"Fade-in" means to gradually raise the volume to a desired level, and "fade-out" means to gradually lower the volume to silence.

Fader

A linear control that adjusts the volume of input channels and outputs.

Fill

A short improvisatory phrase differing from the surrounding measures of the song, typically one measure long, that is added as ornamentation to mark sections in the song such as between verses or choruses.

Final effect

On the D3200, the effect processor that is applied to the master bus as the final stage of mixdown.

Finalize

To apply processing to a CD-R/RW disc that has been recorded using the Track At Once method, so that no further data can be written to it even though space may remain on the disc.

Foot controller

A term covering various foot-operated control devices such as foot switches and foot pedals.

Foot switch

A switch operating by pressing it with the foot.

Format

To prepare a storage medium (such as a hard disk) so that data can be written to it.

Frame rate

The number of frames that occupy one second of film; describes the type of time-code format used when synchronizing with video equipment.

Frequency band

A specific portion or region of the range from low to high frequencies.

Gain

Positive (+) boosts a signal, and negative (–) gain attenuates it.

Hard disk

A storage device containing one or more metal disks with magnetic recording surfaces. Also called "hard drive" or "hard disk drive."

Hiss

A type of noise that is output at a constant level regardless of the recording level, typical of magnetic recording tape.

Humanize effect

An effect that adds intentional inaccuracy to a performance in order to give it a more natural sound.

Icon

A small graphic element that visually indicates content or function.

Image file

Before writing data to a CD-R/RW, the data is converted into the form in which it will actually be written. This is the image file. An image file must be created before writing to CD-R/RW, but if the same song is to be written to another disc, the image file need not be re-created. This means that it will take less time to write the second disc because the image file has already been created.

Impedance

The alternating-current resistance to an audio signal. This generally indicates the added resistance of an audio signal input or output.

Import

To obtain or load data created by another system or program.

Insert effect

An effect used by inserting it into a mixer channel.

Library

A collection of multiple sets of data for a specific purpose. The D3200 provides EQ libraries and name libraries.

Locate

A marker function that lets you store a desired location in a song, and move instantly to that location when desired.

Location

The distance from the beginning of the song, expressed as an absolute time, number of frames, or number of measures.

Mark

A point that can be assigned to a song to indicate a location that you want to use or store for later access.

Master

A device that controls another device (e.g., via MIDI). The device being controlled is called the "slave."

Master effect

On the D3200, refers to two effects that are applied to signals sent from the effect sends of each track. The output of each master effect is sent to the master bus.

Master track

A track that holds the stereo two-channel data for the completed song.

Mastering

The process of making final adjustments to the balance and overall tone of mixed-down two-track master data.

MIDI

MIDI (**M**usical **I**nstrument **D**igital **I**nterface) is a worldwide data transfer standard for sending a wide variety of performance-related data between electronic musical instruments and computers. If you are interested in learning more about MIDI, please refer to one of the many published books that provide helpful and in-depth explanations of MIDI.

MIDI Clock

A MIDI message used to synchronize the tempo between electronic musical instruments. Each beat is divided into 24 clock messages.

Mix down

Also called "track-down." The process of adjusting and combining multiple tracks into a fewer number of tracks, usually to a two-track stereo mix.

MMC

MMC (MIDI Machine Control) is a specification that allows recorder control signals such as Play, Stop, or Record to be transmitted via MIDI.

Monitor

The speaker system or headphones used to listen to the playback output, or the act of listening to this playback.

MTC

MTC (MIDI Time Code) is a specification that allows time location data to be transmitted via MIDI to allow synchronization between MIDI devices, MTRs, VTRs, and sequencers.

Mute

To silence a sound.

Optical

Refers to a connector that transfers a digital audio signal in the form of pulses of light sent over an optical fiber.

Optimize

To adjust hardware (e.g., a hard disk), software, or data so that it can achieve the maximum possible performance.

Overdubbing

A multi-track recording technique in which previously-recorded performances are played back while a performer records additional material on other tracks.

Pad

An attenuator that can be applied to an input signal entering a mixer in order to prevent the input amp stage from being overloaded by an excessively loud input signal.

Pair

A function that allows the settings of an adjacent odd-numbered and even-numbered channel to be edited in tandem, so that editing a value on one channel will cause a corresponding change on the other channel. This allows mixer settings to be made simultaneously for both channels of a stereo track.

Pan

The left / right position of a sound object in the stereo field or "panorama."

Partition

A method by which a single hardware drive is made to appear and function as multiple drives. Partitioning is normally performed when formatting a drive.

Peak hold

A function in which the maximum value reached by a meter is held for a specified duration (or until it is manually reset).

Phantom power

+48V power supply provided via a mic cable in order to power condenser microphones.

Phase

The phase of a signal. If signals are at different phases relative to each other, their volume may be incorrect when the signals are combined because the signals are partially canceling each other. Phrase reversal can occur if the positive (+) and negative (–) wires are accidentally switched, causing the signals to cancel to silence when they are added.

Post fader

The state of a signal after it passes through the fader.

Post gap

A blank space left after a song when creating a music CD.

Pre gap

A blank space left before a song when creating a music CD.

Pre-fader

The state of a signal before it passes through the fader.

Preset

A program or a set of data for a device that is fixed at the factory and cannot be changed by the user.

Protect

To temporarily prohibit changes to a saved program or setting.

Punch-in / punch-out

When you want to re-record just a specific portion of a performance, you "punch-in" at the point where you want to begin re-recording, and "punch-out" at the point where you want to stop recording and resume playback.

Q

A term that refers to the narrowness of the frequency band controlled by a filter. Higher 'Q' results in a narrower bandwidth, causing the frequency response curve to be a steeper 'hill' or 'valley'.

Redo

After using Undo to cancel an operation, Redo can be used to "undo the undo," reinstating the effect of the original operation.

Restore

To reload backed-up data so that it can once again be used.

S / N

Signal / Noise ratio. This is a numerical value indicating the ratio of the desired signal (audio signal) to the unwanted noise, and indicates the amount of residual noise produced by a device when it should be silent, in units of dB (decibels). A higher S / N value means less noise.

S / P DIF

Stands for Sony / Philips Digital audio Interface. The official name for this specification is IEC60958, but it is more commonly called S / P DIF. It is a format for transferring digital audio signals, and can convey two channels (one stereo pair) of audio.

Sampling rate

Also called sampling frequency. The frequency at which an analog input sound is converted into digital data. A sampling rate of 48 kHz means that the analog level is converted into digital form 48,000 times each second. The higher the sampling rate, the broader the frequency range that can be converted into digital data.

Sampling rate converter

A device that converts the sampling rate of a digital audio signal. For example, this allows the playback from a DAT recorder (48 kHz sampling rate) to be recorded directly to CD or MD (44.1 kHz sampling rate).

Scene

A complete set of parameters for the mixer section. The D3200 can store 100 scenes for each song.

Scene memory

A function that stores a scene. A stored scene can be recalled at any time to reproduce those mixer settings.

Scrub

A function that allows track data to be played by operating the value dial. Since the track is played back according to the direction and speed with which the dial is operated, this is a useful way to precisely identify a specific location.

Send

A signal that is sent to another circuit or device. The D3200 provides effect sends that are sent to master effects 1 and 2, AUX sends that are sent to the AUX OUT 1 and 2 jacks, and REC sends that are sent to the recorder tracks.

Sequencer

An automatic playback device that plays back stored MIDI data to control an electronic musical instrument such as a synthesizer.

Shuffle effect

An effect that produces a “bouncy” rhythmic feel by adjusting the timing of triplets.

Slave

A device being controlled (e.g., via MIDI) by another device, called the “master.”

Solo

A function that lets you hear only the sound of a selected channel during mixdown, etc.

Song

A unit of performance data. On the D3200, a song contains sixteen tracks of performance data, stereo master track data, mixer data, and effect settings.

Synchronize

To cause two or more electronic devices (such as musical instruments or recorders) to match their playback tempo and link operations such as start or stop. The device that controls the tempo etc. is called the “master,” and the device(s) that are being controlled are the “slaves.”

System file

A set of data containing software to operate hardware. New functionality can be added to a device by updating the system file.

Tap tempo

A method of specifying the tempo by the interval at which a key is pressed.

Tempo map

A set of events arranged by time, that specify a tempo, time signature, and rhythm pattern in units of measures. You can use the tempo map to switch tempo, time signatures, and rhythm patterns at specified measures.

Tempo source

The source by which the tempo is determined. On the D3200, you can choose one of three tempo sources; Manual which lets you specify the tempo directly, Pattern Map which uses the settings that you programmed in the pattern map, or Tempo Track which uses the tempo data recorded in the tempo track.

Tempo track

A memory area that records tap tempo data or MIDI Clock data received from an external MIDI sequencer.

Threshold level

A specified value which causes some operation to occur when it is exceeded by an input level.

Time code

Time information that is exchanged in order to synchronize recorders, rhythm machines, and sequencers etc.

Track At Once

A method by which individual tracks can be written to a CD one by one at different times, as long as free space remains on the disc.

Track/trk/tr

Something that can record, store, and play back an individual audio signal.

Trigger recording

A method by which recording is initiated when the input level exceeds a specified threshold.

TRS phone jack

A 1/4" stereo phone jack with separate conductors for the Tip, Ring, and Sleeve. In addition to conveying a stereo signal, this type of jack is also used for balanced connections.

UDF format

A packet writing format that writes individual files to storage media (such as CD-R or MO) in the same way as on a hard disk.

Unbalanced connection

A connection using a cable that contains two conductors; one ‘hot’ (the signal) and the other ‘ground’. It has the disadvantage that hum noise can easily contaminate the signal.

Undo

After executing an operation, the act of returning to the state prior to execution.

Unity gain

To output an input signal at the same volume.

USB

Universal Serial Bus, a specification for connecting peripherals devices to a computer.

Virtual track

Each channel track and the master track of the D3200 actually consists of eight separate areas called “virtual tracks” that can each hold a separate performance. For each track, you can select one of its virtual tracks for playback and recording.

WAV

The filename extension for a Wave file, the audio file format used mainly on Windows computers.

Word clock

A synchronization signal that unifies the timing at which digital audio data is transferred. If two or more devices are digitally connected, failure to synchronize the word clock will cause noise to be heard in the digital audio, or even make it impossible to transfer the digital audio signal.

XLR jack

The three-pin balanced connector used for most mic connections.

Zero cross point

A location at which the waveform level crosses ±0.

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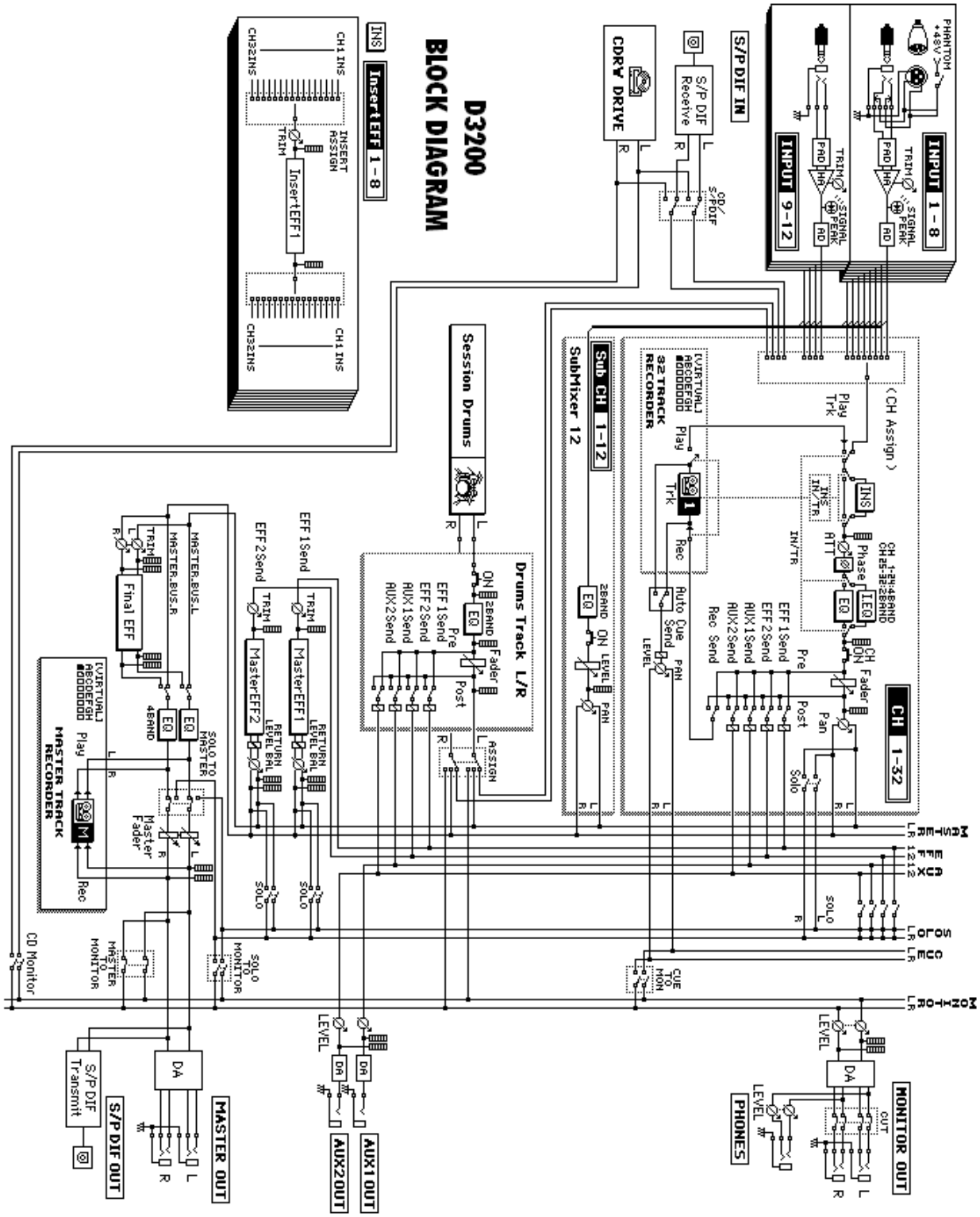

[Digital Recording Studio]

Model D3200

MIDI Implementation Chart

Date: 2005.4.15

Function		Transmitted	Recognized	Remarks
Basic Channel	Default	×	×	
	Changed	×	×	
Mode	Memorized	×	×	
	Messages	×	×	
	Altered	**********		
Note Number:		×	0 – 127 *1, *2	
	True Voice	*********		
Velocity	Note On	×	○ *1	
	Note Off	×	×	
Aftertouch	Polyphonic (Key)	×	×	
	Monophonic (Channel)	×	○ *1	
Pitch bender		×	○ *1	
Control Change	0 – 111	○ *3	○ *1 *3	EffectControl (Received) ControlChange #000–119 are Recognized MixerControl (Transmitted/Received) Mixer Ch1–16(Ch17–32) Parameters 7 (39) Fader 8 (40) Pair Switch 9 (41) Channel OnOff 10 (42) Pan 12–13 (44, 45) EffSend1/2 14–15 (46, 47) AuxSend1/2 16–27 (48–59) EQ Low/LMid/HMid/High 28 (60) Channel EQ Switch 29 (61) Attenuator 96–102 (32–38) Rec/Eff/Aux SendPosition 75–79 MasterEQ Parameters 80 MasterEff1/2 Return Level 81 MasterEff1/2 Return Balance 85–86 Aux1/2 Master Level 89 Master Level 103–111 SubMixer Ch1–12 Parameters
Program Change	Variable Range	○ *4 0 – 100	○ *4 0 – 100	
System Exclusive		○ *5	○ *6	
System Common	Quarter frame	○ *7	○ *8	
	Song Position	○ *9	×	
	Song Select	×	×	
	Tune	×	×	
System Real Time	Clock	○ *9	○ *10	
	Command	○	○	
Aux Messages	Local On/Off	×	×	
	All Notes Off	×	×	
	Active Sense	×	×	
	Reset	×	×	

Notes

*1: Received as the EffectControl when it is selected in [SYSTEM/MIDI] "Control".

*2: Received as Note events if MIDI is checked in the [SESSION DRUMS] "SessionDr." DRUM KIT dialog box.

*3: Transmitted/Received as the MixerControl when ControlChange is enabled in [SYSTEM/MIDI] "MIDI/MMC". (Consult your local Korg distributor for more information about MixerControl.)

*4: Transmitted/Received when ProgramChange is enabled in [SYSTEM/MIDI] "MIDI/MMC".

*5: Transmitted when "MMC Transmit"or "MTC Master" is selected in [SYSTEM/MIDI] "MIDI/MMC".

*6: Received when "MMC Receive" or "MTC Slave" is selected in [SYSTEM/MIDI] "MIDI/MMC".

*7: Transmitted when "MTC Master" is selected in [SYSTEM/MIDI] "MIDI/MMC".

*8: Received when "MTC Slave" is selected in [SYSTEM/MIDI] "MIDI/MMC".

*9: Transmitted when "MIDIClockMaster" is selected in [SYSTEM/MIDI] "MIDI/MMC".

*10: Received when "MIDIClock" is selected in [SessionDrums] "TempoTrk" to record the tempo.

Mode 1 : OMNI ON, POLY　　Mode 2 : OMNI ON, MONO　　: Yes ○

Mode 3 : OMNI OFF, POLY　　Mode 4 : OMNI OFF, MONO　　: No ×

Consult your local Korg distributor for more information on MIDI IMPLEMENTATION.

IMPORTANT NOTICE TO CONSUMERS

This product has been manufactured according to strict specifications and voltage requirements that are applicable in the country in which it is intended that this product should be used. If you have purchased this product via the internet, through mail order, and/or via a telephone sale, you must verify that this product is intended to be used in the country in which you reside.
WARNING: Use of this product in any country other than that for which it is intended could be dangerous and could invalidate the manufacturer's or distributor's warranty.
Please also retain your receipt as proof of purchase otherwise your product may be disqualified from the manufacturer's or distributor's warranty.

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